Understanding New Zealand Public Opinion on Climate Change

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Abstract

This project explored how climate change is understood by members of the New Zealand public and how these understandings relate to their climate-related policy preferences and actions. Although climate change is regarded as one of the most serious threats facing humanity, there remains a gap between scientific findings and the political responses in New Zealand and the wider international community. Given that public opinion is a key driver to political action on the matter, it is important to understand its complexities, how it is constructed and shaped, and how it relates to behavioural preferences and practices. The research literature, however, reveals an emphasis on the polling of New Zealanders' opinions on climate change and a neglect of these dynamics. To address this lacuna, the study explored the climate change understandings and actions of six New Zealanders in rural and urban settings. In-depth, semi-structured, one-on-one interviews and the methodological approach of Interpretative Phenomenological Analysis were used to gain rich insight into the lived experiences of climate change. The analysis of data revealed four key themes, which depicted climate change as a physical process; as a sociocultural story; as a personal story; and as a call to action. Despite a general understanding of the veracity of climate change and its human causation there is evidence of widespread conflation with other environmental phenomena, distrust of elites, and subtle forms of denial, which together hamper effective action. Shaped by various beliefs, values, and experiences, the heterogeneity of interpretations implies the need for disaggregated research into climate change public opinion, and for tailored strategies in designing climate policy, activating behavioural change, engendering policy support, and mobilising collective action.

Keywords: Climate change, Public opinion, New Zealand, Interpretative Phenomenological Analysis

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1. Introduction

1.1 Overview

Climate change has been identified as the most serious threat facing humanity (World Economic Forum, 2016). Expressed in the most recent United Nations Intergovernmental Panel on Climate Change (IPCC) (2014) report, there is broad scientific consensus on key aspects of its anthropogenic causation and consequences. This scientific accord remains out of step, however, with publics and governments around the world. Cross-national studies of public opinion on climate change paint a diverse picture but illustrate that high levels of concern about climate change do not translate into a willingness to pay to address the problem (Brechin, 2010; Brechin & Bhandari, 2011). Moreover, an independent science-based assessment concluded that the successful attainment of the non-binding pledges made by governments at the 2015 Paris Agreement on climate change would nevertheless result in a temperature warming approximately twice that of the 1.5°C limit established at the conference (Climate Action Tracker [CAT], 2015; United Nations Framework Convention on Climate Change [UNFCCC], 2015). This assessment, moreover, came prior to the June 2017 withdrawal from the Agreement of the world's second largest emitter of greenhouse gases, the United States (CAIT Climate Data Explorer, 2017; The White House, 2017). Notwithstanding the New Zealand government's ratification of the Paris Agreement and implementation of an Emissions Trading Scheme (ETS), its response has also been criticised as inadequate and ineffective (Organisation for Economic Co-operation and Development [OECD], 2017; Richter & Chambers, 2014). Similarly, the scientific consensus has not translated into New Zealand public confidence about climate change. A longitudinal study found the public's belief in anthropogenic climate change was

increasing over time (Milfont, Wilson, & Sibley, 2017) and yet, a 2014 nationwide survey found that less than half of New Zealanders believe climate change is happening (Horizon Research, 2014).

This disparity between the largely cohesive scientific discourse on the gravity of climate change and the actions and perceptions of governments and the public alike demand an understanding of public opinion on climate change. Effective public and private sector mitigative and adaptive action will be crucial to avoid the most severe of climate change consequences, and an understanding of public opinion is instrumental to this goal in two respects.

The first concerns the influence on public opinion on climate policy. Though research is contested, the general finding is that opinion shapes policy processes and outcomes through dimensions such as electoral accountability and constituent pressure (Campbell & Rigby, 2016; Manza & Cook, 2002; Shapiro, 2011; Stimson, Mackuen, & Erikson, 1995). For instance, a cross-national study found that civil society pressure was a key explanatory factor for environmental treaty ratification (Roberts, Parks, and Vásquez, 2004). We need to understand public opinion to develop support for effective policy measures. However, the understanding is also important to mobilise changes in individual behaviour. Studies of political behaviour along with the broader psychological literature point to a complex, contingent and bidirectional relationship between attitudes and actions (e.g., Glasman & Albarracin, 2006; Granberg & Holmberg, 1990; Sheeran, 2011). Behavioural intentions or environmental concerns about climate change do not always translate to action (Stern, 2011). To stimulate action at the individual level we need, therefore, to examine how opinion translates into action and grasp the barriers and drivers involved.

Thus if we are to stimulate political and individual shifts in policy and behaviour in New Zealand, we need country-specific understandings of the dynamics of opinion formation, change and behavioural expression. We need insights into policy support and household actions and how these relate to understandings. Particularly in the New Zealand context, however, this in-depth knowledge is lacking. Largely quantitative in nature, current research has been often inattentive to the sociocultural roots of perceptions and the ways in which people interpret climate change.

This thesis uses Interpretative Phenomenological Analysis (IPA), a qualitative approach, to explore the climate change understandings and actions of members of the New Zealand public. It construes climate change as a universal phenomenon, which pervades all spheres of human life and is grounded in personal experience. Given the inherent focus on patterns of meaning, it therefore takes a non-traditional conception of public opinion to include individual expressions of beliefs, values, thoughts, feelings and ideas, and attends to what Berinsky (2013) called "the micro foundations of collective public opinion" (p. 141).

After contextualising the research with pertinent information about New Zealand and climate change, the remainder of this introductory chapter discusses the academic and personal significance of the research, the research gaps, the methodology employed, and the structure of the thesis.

1.2 New Zealand and climate change

The research in this thesis is empirically situated in urban and rural settings of New Zealand. Pertinent background information about the country's greenhouse gas (GHG) emissions profile, climate change policy responses, and vulnerabilities are thus helpful. Although New Zealand is a small contributor to global emissions, when

compared with other OECD countries, the nation's gross emissions per capita are amongst the highest (OECD, 2017). Across all sources, these emissions have increased by 24% between 1990 and 2015, with road transport, industrial processes, and agriculture being the chief contributors to this trend (Ministry for the Environment [MFE], 2017). Indeed, given the nation's reliance on primary sector exports, nearly half of the country's emissions spring from the agricultural industry (MFE, 2017).

New Zealand's mitigation response predominantly depends on carbon pricing and the use of forest sinks through the nation's principal climate policy instrument, the ETS (MFE, 2016). The New Zealand government ratified the Paris Agreement in October 2016, by which it committed to reduce GHG emissions to 30% below 2005 levels by 2030 (Bennett, 2016). The government's collective response, however, has been criticised by several scientific, environmental, and economic bodies for its lack of ambition and ineffectiveness. In 2016, CAT (a scientific analysis that measures government climate action and is produced by several research organisations which include IPCC authors) classified New Zealand's response as inadequate (CAT, 2016). Earlier this year, the non-governmental organisation Germanwatch, together with Climate Action Network, similarly categorised New Zealand's climate change performance as poor in their annual index of the top carbon dioxide emitting nations (Burck, Marten, Bals, Dertinger, & Uhlich, 2016). The OECD criticised New Zealand's ETS, stating, it had "made little contribution to domestic GHG emission mitigation" (p. 128) (OECD, 2017). New Zealand, moreover, is vulnerable to the impacts of climate change, particularly sea level rise, increases in temperature, and more frequent and intense rainfall and drought (Lawrence et al., 2016; MFE, 2016b; OECD, 2017). These

impacts are forecast to have direct and indirect implications for a range of sectors including forestry, agriculture, and tourism (Lawrence et al. 2016).

1.3 Academic significance

This study is intended to be of significance in several ways. First, it provides insight into the content, dynamics and interplay of New Zealanders' climate change understandings and behaviours. A review of the relevant literature indicates that research with a political sociology dimension is an undeveloped area. Second, the study would be beneficial to climate change communicators, policymakers and activists in fostering civic engagement in climate action, garnering support for climate policy, and in the development of effective communications. If climate policy is to entail changes in household behaviours or if individuals are to participate in political action aimed at addressing climate change, we need to understand how interpretations of the phenomenon translate into action. Successful communications, moreover, require knowledge about the factors that work to shape individuals' understandings of climate change, their policy preferences, and their household actions. Third, to future researchers, the study will provide grounding for theoretical development or the testing of hypotheses. Fourth, through its qualitative methodology and a dynamic, active and social conception of public opinion, the study presents an alternative and richer approach to the study of public opinion. The study addresses the critiques made by some scholars of conventional public opinion research (e.g., Berinsky, 2013; Lee, 2002; Nisbet, 2011; Walsh, 2009), which, turning on criticisms of the common use of surveys and the reduction of public opinion to quantifiable inputs, highlight the field's limited attention towards sociocultural context, social interactions and experiences in the formation and expression of opinion.

1.4 Personal Significance

I am interested in the way the social phenomena of climate change is framed and constructed. I look to how the climate change understandings of New Zealanders are negotiated and produced through dominant institutional and social discourses, ideologies, individual/collective experiences, and personality structures. This framing arises from a strong interest in grassroots everyday politics and, as Boyte (2004) phrased, its potential to break the "tyranny of technique" (p. xiii) in professional politics. Related to this interest, it also comes from a call, shared by some researchers (see section 1.3), to examine public opinion from broader sociological perspectives rather than equating it with poll results. I am interested in the 'lived' public opinion that occurs in the public sphere, the informal conversation or 'vernacular rhetoric' (Hauser, 1998) between friends, family, and colleagues, which is loaded with meaning and values and which polling fails to capture.

That explicates some of my intellectual interest in the study. But the personal significance of the study is positioned in something more heartfelt. The scientific evidence on the source and significance of climate change convinced me, beyond any reasonable doubt, many years ago. I am not a dispassionate observer on the issue of climate change and the peoples most vulnerable to its negative impacts. I am a father, moreover, and sometimes saddened at the challenges I am leaving to a child for whom it's my job to protect. Accompanying a general dissatisfaction with the efficacy of centralised political institutions, I was increasingly frustrated at governments for their part in maintaining the climate change science-action gap described at the beginning of the introduction. I was also disillusioned, however, at my own and my compatriots' apparent capacity to make sense out of tokenistic action and passive denial. I had a

sense that I was seeing a complex mix of individual, social, economic, institutional, and policy factors at play in maintaining a status quo. But I was concerned that the majority of research on climate change public opinion in New Zealand was quantitative in nature and, while registering measures such as the extent of concern or otherwise, was failing to understand how the public interpret the issue. Given my professional background in marketing communications, I knew the significance of grasping how people make sense of climate change in order to shape messaging and policy, and to affect change.

1.5 Research Gaps

The research presented in this thesis will attend to two main gaps in the literature. First, the study addresses a relative paucity of research into New Zealand public opinion of climate change. Compared to the evidence base gained through studies of publics in North America and Europe, there is limited knowledge about New Zealanders' views and thus limited capacity for targeted interventions. Second, the dominant use by these extant studies of survey instruments provides a reductionist, fixed and fragmented view of the public's interpretations of what is a highly complex environmental, social, and political issue, involving a broad range of stakeholders. Although these studies afford some insight into the content of public's beliefs and actions with regard to climate change, they do not tell us about how these understandings are shaped and how they translate into action. This gap is addressed through a qualitative methodology that facilitates insight into the richness and conditionality of understandings and actions, and explores the nuanced and complex relationships among the potential formative factors.

Cognisant of these research gaps, the aim, objectives and research question were as follows:

Aim: To build a greater understanding of both the content and the possible determining factors of New Zealanders' climate change opinions and the relation of this opinion to policy preferences and individual behaviours.

Objective 1: Explore the meaning of climate change for participants.

Objective 2: Explore how these meanings are shaped by contextual factors.

Objective 3: Explore how these meanings transfer to policy preferences and actions.

Research question: How do New Zealand citizens make sense of climate change and how do these understandings relate to their climate-related policy preferences and actions?

1.6 Research Methodology and Methods

This study is grounded in an interpretivist paradigm. This was consistent with the researcher's ontological and epistemological proclivities. However, the positioning also met the critique of climate change opinion researcher, Matthew Nisbet (2011) who argued that such opinion "needs to be studied [...] as a process that emerges from social context, interaction, and communication" (p. 355). Interpretivism understands that meaning-making occurs in a particular context and through interaction in social groups (Prasad, 2005; Willis, 2007). Its political locus offers impetus for this interpretive approach. Though more prevalent in Europe than the USA, Bevir and Rhodes (2015) have identified a interpretive turn in political science. Rejecting a positivist 'science of politics', Bevir and Rhodes (2003, 2006, 2010) argued that political science is necessarily interpretive and advocate what they term a narrative form of explanation for political behaviour. Thus, to make sense of political actions, practices and institutions, one must refer to the relevant beliefs, the broader webs of meaning, and the background

of traditions and ideologies that stimulate and inform them (Bevir & Rhodes, 2003). The analytical task in political science is the recovery and explanation of the interpretations or stories that give rise to their actions. The use of interpretivism in political science has been criticised, however. Dowding (2004) has disparaged the approach for what he regards as a dismissal of truth and evidence. For Dowding, causal inferences cannot be drawn from understandings. Dowding's criticism is premised, however, on a essentialist notion of truth and the idea of pure experience. Like other critiques, which turn on issues of researcher bias and subjectivity, it is at odds with interpretivist assumptions. As a broad family of ideas rather than a unitary position, interpretivism rejects a single objective truth and instead acknowledges multiple discursively constructed realities. Social actions and practices are mutually constituted with webs of meaning and thus social phenomena cannot be divorced from our interpretations of them (Yanow & Schwartz-Shea, 2006).

Interpretivism is predominantly associated with qualitative methods (Prasad, 2005). The thesis thus takes an IPA approach and uses in-depth semi-structured interviews to explore the research participants' contextual understandings of climate change. The philosophical underpinnings of IPA are consistent with the study's research question and exploratory purpose. Based on Husserl's phenomenology, IPA seeks a detailed examination of the personal lived experience of a particular phenomenon, and on its own terms rather than according to predetermined categories (Smith, Flowers, & Larkin, 2009). The open-ended research question in this study sought to uncover rather than explain how members of the New Zealand public make sense of climate change. IPA is an unusual approach in political science but resonates with Bevir and Rhodes' critique of the discipline, as described above. Moreover, it has been used in similar

explorative political studies (e.g., Burgess, Ferguson, & Hollywood, 2007; Sossou, 2011). In-depth semi-structured interviews were selected for their harmony with IPA's focus and the research question. As Smith et al. (2009) noted, IPA aims for data collection instruments that "elicit detailed stories, thoughts and feelings from the participant" (p. 57). The adopted interview style facilitates the building of rapport, the participant's reflection and free expression, and the flexible exploration of particular areas of interest (Brinkmann & Kvale, 2015; Smith et al., 2009). It also permits the detailed investigation of issues, such as climate change, which are less visible in everyday interaction (Soss, 2006). In short, the method allows for the capture of rich and nuanced interpretations. Alternative methods were considered but rejected. For instance, ethnographic participant observation in the vein of Walsh's (2004) investigation of everyday political discussion was assessed for its insights into real-life experience but rejected due to time constraints in tandem with, as mentioned, the predicted invisibility of climate change in daily conversation. The constructivist strand of grounded theory was considered for its emphasis, like IPA, on the co-construction of participant experiences but rejected for its poorer fit with the explorative purpose of the research. Chapter 3 critically discusses the methodology used in this empirical study.

1.7 Thesis Structure

This thesis is arranged into five chapters. Following the introduction, Chapter 2 discusses the literature in order to frame and contextualise the study. In a thematic structure that is shaped according to the research problem, it considers extant research of public opinion about climate change, both in New Zealand and other countries. Specifically, then, it examines the literature through the lenses of awareness and knowledge about the phenomenon, levels of concern, the understandings about the

causes and consequences, and views about appropriate responses. Chapter 3 presents the methodology and methods used in the study. It offers further rationale for the study's interpretivist epistemological position and the IPA approach adopted. Given the lack of qualitative studies of New Zealand public opinion on climate change and indeed of public opinion generally, the qualitative methods used in this thesis represent some of its contribution to the academic literature. Chapter 4 submits the empirical findings of the study. Responding to the overall aim of the study, it depicts the themes which emerged through the analytical process. These findings are brought into a wider context in Chapter 5. The chapter presents a dialogue between the findings and the literature, both that reviewed in Chapter 2 and additional studies. The chapter also considers implications of the findings, provides an evaluation of the study, offers direction for future research, and ends with concluding remarks.

1.8 Summary

This introduction has presented the study's focus and outlined the rationale for an academic exploration of New Zealanders' climate change understandings and their connection to climate-related actions. Particularly in New Zealand, climate change public opinion has been chiefly investigated through survey-based instruments, which tend to atomise and simplify opinion. Ignoring how the public interprets climate change, they disregard the complex, dynamic and interactive aspects of opinion formation and expression. Consequently these studies fail to provide an understanding of the many factors that may shape public opinion and, crucially, how these opinions translate into behaviour. This in turn means we have a limited understanding of how to motivate the New Zealand public into climate-related action, including its civic and political aspects. Working to bridge this gap, the present research explores public opinion on climate

change as a lived, fluid and social experience rather than a disconnected and fixed attitude. Understandings of climate change are seen as created and recreated through everyday interaction.

The thesis is empirically situated in urban and rural settings of New Zealand. The country was a signatory to the recent Paris Agreement on climate change and its central policy instrument is an ETS. Successive governments have, however, been criticised by various bodies for their lack of action. The study is underpinned by an interpretivist epistemology and employs IPA and semi-structured in-depth interviews to focus on how members of the New Zealand public make sense of climate change in particular contexts. The next chapter frames the study in a review of extant literature.

2. Literature Review

2.1 The Public's Understandings and Actions on Climate Change

Public opinion on climate change is a multifaceted phenomenon. The ways in which people make sense of climate change encompass beliefs about its existence or attribution to human influence, varying levels of knowledge about its causes and consequences, different understandings of the risks it poses, and diverse views on what institutions or they as individuals should do to mitigate or adapt to its effects. Those opinions, moreover, are dynamic and contextually influenced. They are formed and reformed according to a variety of political, psychological, socio-cultural, environmental, and structural factors. After outlining the method used to identify and select the literature to be reviewed, this chapter assesses the research that has been conducted on public understanding of climate change. The focus is on the New Zealand perspective. However, the scarcity of research in this regard, whether this is focused solely on members of the New Zealand public or as part of national comparisons, means that it also turns to studies of climate change public opinion in other nations. Concluding comments discuss how this study addresses gaps in the extant research.

2.2 Literature Search Method

This review draws on peer reviewed papers, edited works, and grey material directly relevant to public beliefs and attitudes about climate change. Although a lens is directed at the New Zealand context, the shortage of pertinent research demands that the discussion of the literature is augmented by the findings of studies from other locations. Given time constraints, a blend of traditional and systematic search approaches were taken. The core set of papers selected for review seeks to be comprehensive rather than

exhaustive. Further details about the literature review method are contained in Appendix A. The following sections are a thematic synthesis of the selected literature.

2.3 How New Zealanders and Other Publics Understand Climate Change

Among the limited number of studies on the New Zealand public's opinions towards climate change, the majority have adopted quantitative methodologies and utilised polls or surveys as data collection strategies. These have been sponsored by business organisations and think tanks (Horizon Research, 2012; 2014; Stuart, 2010; TNS Conversa & New Zealand Institute of Economic Research [NZIER], 2008), and research bodies (Hughey, Kerr, & Cullen, 2013; Roy Morgan Research, 2015; UMR Research, 2003). An early national survey conducted in 1990 looked at the relationship between media coverage of scientific explanations for global warming and public perceptions of these communications (Bell, 1994). A large-scale online study conducted in 2008 in association with a national newspaper examined New Zealanders' various beliefs including climate change (Wilson, 2008). A mixed method study involving qualitative interviews and a quantitative telephone survey was conducted with farmers in two New Zealand regions to examine how their perceptions and responses to climate change drive agricultural adaptation (Niles, Lubell, & Brown, 2014). A similarly multi-method study focused on the relationship of flood experience, risk perception and climate change response of Hutt Valley residents using a household survey and a combination of workshops and interviews with local government practitioners (Lawrence, Quade, & Becker, 2014). Entailing semi-structured in-depth interviews, an exploratory small-scale qualitative study of Queenstown ski industry stakeholders investigated the perceived risks of climate change and their relation to adaptation strategies (Hopkins, 2014; 2015). Several studies have utilised the New Zealand

Attitudes and Values Study, a longitudinal national probability study that began in 2009 and uses a postal and online self-report questionnaire incorporating a thematically broad range of scales. This research examined the links between various demographic, psychographic and geographic factors and an individual's acceptance of climate change and policy support (Milfont, 2012; Milfont, Evans, Sibley, Ries, & Cunningham, 2014; Milfont, Harré, Sibley, Duckitt, 2012; Milfont, Milojev, Greaves, & Sibley, 2015; Milfont, Richter, Sibley, Wilson, & Fischer, 2013; Milfont, Wilson, & Sibley, 2017; Sibley & Kurz, 2013). Utilising a somewhat small sample size, the psychological barriers to climate change action were the focus of a survey of the public in greater-Wellington (Aitken, Chapman, & McClure, 2011).

There is a dearth of research, then, which is qualitative in nature, conducted recently, and concentrated on the lay public rather than on individual social or productive sectors. However, there are also few cross-national studies that have included New Zealand public perceptions. New Zealand is not included, for instance, in recent multinational studies of public opinion through the Gallup World Poll (Pugliese & Ray, 2009), the forty nation 2015 Pew Research survey (Stokes, Wike, & Carle, 2015), Globescan (2015), the World Bank (2009), or the World Public Opinion poll (Council on Foreign Relations, 2009). A 2009 global consumer online survey, however, captured responses from New Zealanders in a single question regarding concern about climate change (Nielsen, 2009). Using the 2007 dataset of this study, a cross-national analysis examined the correlation between public concern and a country's economic wealth (Sandvik, 2008). Another survey examined levels of self-reported knowledge amidst Australians and New Zealanders (Hatfield-Dodds & Jollands, 2006). A further comparative study incorporated New Zealanders' perceptions to uncover a cross-cultural

mental model of climate change (Crona, Wutich, Brewis, & Gartin, 2013), while another drew upon International Social Survey data to examine both the extent and the predictors of scepticism about global warming in New Zealand and other nations (Tranter & Booth, 2015).

Turning to studies of other population bases, the breadth of research is more extensive. Reflective, however, of the extent to which public opinion research is dominated by quantitative polling and survey methods (Lee, 2002; Walsh, 2009), the number of studies employing small scale qualitative methodologies to examine individual understandings of climate change is growing yet relatively limited (Wolf & Moser, 2011). In the United States, two early studies used open ended interviews to examine lay people's mental conceptualisations about the impacts and causes of global warming (Bostrom, Morgan, Fischhoff, & Read, 1994; Kempton, 1991). A more recent study similarly used depth-interviews to explore through a lens of sociological ambivalence the meanings and strategies by which individuals make sense of climate change (Carolan, 2010). Mail surveys were used to examine the predictors of support for mitigation policies (Dietz, Dan, & Shwom, 2007). Further studies used nationally representative online survey data to explore the empirical support for the knowledge-deficit explanation of climate change risk perceptions amidst Americans (Kahan et al., 2012), investigate the effects of party identification and political ideology on public understandings (McCright, Dunlap, & Xiao, 2014), and inquire into the role of affect, imagery, and values in risk perception and policy support (Leiserowitz, 2006), while an aggregate-level analysis of successive opinion polls was used to examine the drivers of public concern about climate change (Brulle, Carmichael, & Jenkins, 2012). Another study that employed longitudinal survey data explored the role of experiential learning

and motivated reasoning in beliefs about global warming (Myers, Maibach, Roser-Renouf, Akerlof, & Leiserowitz, 2013). Bringing a qualitative and quantitative analysis to cross-sectional surveys, a further study revealed the social, structural, and economic barriers to voluntary mitigation actions by individual Americans (Semenza et al., 2008).

Moving to the research on European publics, two studies employed qualitative methodologies to examine the Norwegian populace through focus groups (Ryghaug, Sørensen, & Næss, 2011) and ethnographic fieldwork (Norgaard, 2011). With a cohort drawn from the London-based British public, exploratory interviews utilised free association techniques to uncover the thoughts and feelings evoked by global warming (Smith & Joffe, 2012). Focus groups in the United Kingdom examined the relations between public perceptions of the scientific consensus about anthropogenic climate change and media reporting on the issue (Butler & Pidgeon, 2009). Taking a cross-cultural mixed-methods approach, a study compared the interpretations of socio-economic and climate scenarios of individuals in England and Italy (Lorenzoni & Hulme, 2009). Multiple datasets, both qualitative and quantitative, were drawn upon to consider how the public perceive climate change as a social dilemma functioning through individual, national, and international scales (Capstick, 2013). A further study drew on data from existing mixed-method studies in the United Kingdom to report on the barriers to engaging with climate change (Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007).

Several studies use Australian cohorts. A phenomenological study examined understandings and risk perceptions of rural residents (Buys, Miller, & van Megen, 2012). With a methodological affinity, another study operated within a hermeneutical framework and applied narrative analysis to in-depth interviews (Denniss & Davison,

2015). An ethnographic survey instrument was used to explore how Hunter Valley residents made sense of climate change in relation to cultural, experiential, and affective dimensions (Connor & Higginbotham, 2013).

The following sections review the approaches and outcomes from these previous studies and bring to bear theoretical insights from several disciplines to tease out the key issues and determining variables behind the gap between scientific consensus on the fundamentals of climate change and public concern and response. These findings establish the ground for the investigation that follows in subsequent chapters.

2.3.1 Awareness and knowledge about climate change. The public's awareness and knowledge about climate change can be viewed across several dimensions. These include cognisance of the phenomenon itself, an understanding of its causes, perceptions about the extent of scientific agreement, as well as knowledge or concern about its impacts and threats. This section examines these dimensions amongst the New Zealand public before turning to other populations.

There is little examination into the awareness and self-reported or objective knowledge levels of New Zealanders. Early research demonstrated a near universal (96%) public awareness of the 'greenhouse effect' but a lack of knowledge about its causes or a conflation of the issue with ozone depletion and other environmental problems (Bell, 1994). It may be significant, however, that this research queried respondents for their knowledge about the 'greenhouse effect'. Although 'climate change', 'greenhouse effect', or 'global warming' can be used interchangeably in public discourse, research has shown differentiated public perceptions depending on the terminology used (Schuldt, Konrath, & Schwarz, 2009; Whitmarsh, 2009). Roughly sixty percent of New Zealanders declare either a 'fair amount' (48%) or 'a lot' of

knowledge (9%) about climate change (UMR Research, 2003), a finding echoed by Milfont (2012) and Aitken et al. (2011). Although the proportion of the public that declare substantial knowledge is low, caution should be taken in interpreting this as an information-deficit given that ignorance is socially produced rather than the mere inverse of knowledge (Ungar, 2000). In this regard the claimed lack of knowledge may be a strategy of inaction or defiance (Lorenzoni et al., 2007).

There is now widespread acknowledgement that climate change is happening. About half (Horizon Research, 2014; Milfont et al., 2015; Sibley & Kurz, 2013; Stuart, 2010) to two-thirds (TNS Conversa & NZIER, 2008; Wilson, 2008) of New Zealanders believe to some degree in the reality of the phenomenon. The finding is endorsed in small scale studies (Hopkins, 2014, 2015; Niles et al., 2014). Nevertheless, the 2014 Horizon Poll also showed there is a significant minority (14%) that disagree that climate change is happening (14%) and a large portion of respondents who take a neutral position (24%) (Horizon Research, 2014). Tranter and Booth (2015) show that the level of climate scepticism in New Zealand is comparatively high in international terms and similar to that found in Australia, the United States, and Norway.

Awareness and objective knowledge about climate change is shown to be higher amongst socially advantaged individuals (Bell, 1994), while levels of self-reported knowledge are higher for male and older citizens (Hatfield-Dodds & Jollands, 2006). This is largely consistent with research on the sociology of science which points to stratification in scientific interest and knowledge (Bauer, Petkova, & Boyadjieva, 2000; Miller, 2004) with greater levels of scientific knowledge amid higher educated males (Miller, 2004; Sturgis & Allum, 2001). The distinction, however, between self-assessed and actual comprehension is significant in this regard as women are found to understate

their knowledge of climate change (McCright, 2010). Reflective of the factors that are linked with broader pro-environmental behaviour and engagement (Kollmuss & Agyeman, 2002), those who accept the reality of climate change are more likely to be female, younger in age, politically liberal, higher educated, of a lower socio-economic status, and belonging to an ethnic minority (Horizon Research, 2014; Milfont et al., 2015; TNS Conversa & NZIER, 2008). Conversely, scepticism is more prevalent amongst older, politically conservative males of the ethnic majority as well as those with children (Milfont et al., 2015). In terms of political party affiliation, belief is positively correlated with support for the Green Party (65%) and Maori Party (53%) and negatively correlated with support for the National Party (27%) (TNS Conversa & NZIER, 2008). Using Shalom Schwartz's (1994) theory of human values and the Big Five model of personality (e.g., Goldberg, 1990), moreover, belief in climate change is also correlated with higher levels of Self-Transcendence and Openness to Change values and traits of Agreeableness and Openness to Experience (Milfont et al., 2015). This finding is congruent with the environmental psychology literature that finds links between pro-environmental engagement and particular traits and values (Dietz, Fitzgerald, & Shwom, 2005; Milfont & Sibley, 2012). Geographical factors represent a further driver of climate change acceptance with individuals who live in physical proximity to the coast expressing greater levels of belief (Milfont et al., 2014).

Turning to other populations, the Gallup World Poll of 2007-2008 indicates a wide variation in public awareness of climate change (Pugliese & Ray, 2009). Comparable with that in New Zealand, the highest levels of awareness (over 90%) were amongst the industrialised countries of Western Europe, North America, Australia and Japan. Conversely, the majorities of publics within many developing nations in Asia,

Africa and the Middle East indicated they had not even heard of climate change (Lee, Markowitz, Howe, Ko, & Leiserowitz, 2015; Pugliese & Ray, 2009). The same Gallup poll shows that, regionally, those people in Europe have the greatest self-declared knowledge about climate change with 70 percent reporting they 'know something about it' and 18 percent indicating they 'know a lot about it', while just 7 percent of respondents in the Asia region declared significant knowledge (Pugliese & Ray, 2009).

Again, however, this awareness and reported knowledge is stratified according to various cultural, national and geographic factors. Worldwide, the level of education is the primary predictor, preceding factors such as age and communication access (Lee et al., 2015). However, the relative significance of these factors differ according to individual countries. In China, for instance, education is the top ranked predictor of awareness followed by geographic location and income. In the United States civic engagement is the leading predictor followed by communication access, and education. In China, then, those individuals who are higher educated, live in urban environments, and have higher incomes are the most aware of climate change, compared with those in the United States who are likely to be more civically engaged, to have more access to communication, and be higher educated (Lee et al., 2015). Scepticism about climate change, moreover, is predicated on affiliation with conservative political parties, being male, being distrustful of government, having low levels of environmental concern, and, at the national level, correlated positively with carbon dioxide emissions and climate vulnerability (Tranter & Booth, 2015).

These findings emphasise the need to explore the variation in comprehension and awareness of climate change across different social cleavages. In the case of New Zealand, while there is attention given to the role of common socio-structural and

psychological drivers, there is an absence of qualitative insight into the effects of, for instance, external factors such as media consumption or cultural norms or beliefs. Moreover, the variable influence that these factors have across nations points to the need for New Zealand-specific data. The findings indicate the necessity to analyse the influence of demographic, external and internal factors on how the public make sense of and respond to climate change.

2.3.2 Concern about climate change. Although a large proportion of New Zealanders view climate change as a problem and a concern (Aitken et al., 2011; Horizon Research, 2012, 2014; Stuart, 2010; UMR Research, 2003), extant research illustrates that this figure has fluctuated over recent years. Roughly half of respondents regarded climate change as urgent or a 'problem for now' in 2012, compared to three out of four in 2008 (Horizon Research, 2012). In 2014, higher proportions were 'concerned' or 'very concerned' about the impacts of climate change on society in general. Far fewer however agreed that climate change would have a 'big impact' on people like themselves (Horizon Research, 2014). The high proportions of neutral responses about personal and national threats are indicative of high degrees of uncertainty in the public about the risks of climate change.

Despite this concern, climate change can be seen by the public as a low priority in relation to other environmental issues (Hughey et al., 2013; UMR Research, 2003). At a world scale, 'global warming/climate change/ozone' was cited by the greatest proportion of respondents in open-ended questioning as the most important environmental issue facing the world, above problems including water concerns, population pressures, and air pollution. However, less than 10 percent identified that issue grouping as the most important issue facing New Zealand, prioritising instead

fresh water quality issues, agricultural related matters, hazardous chemicals, waste, and mining (Hughey et al., 2013). Despite over half of New Zealanders declaring their concern about environmental problems, pollution ranked well above climate change in unprompted questioning on the most important environmental problems facing the world. Similarly, in a prompted question, a greater proportion of respondents ranked the environment significantly above climate change as an issue of serious concern (Stuart, 2010).

Moreover, concern about climate change is subjugated to other social, economic, and security matters (Horizon, 2014; Roy Morgan, 2015; Stuart, 2010; TNS Conversa & NZIER, 2008). When prompted, respondents rated 'tackling climate change issues' as the least important matter in a list of ten items that policy-makers should focus on, with 'reducing the cost of living' and 'improving the health service' as the top priorities (TNS Conversa & NZIER, 2008). In a similarly prompted list, just 10 percent of New Zealanders cited climate change as one of their two most concerning issues and over 40 percent rated it as one of the two least concerning, whilst more people identified issues of health, education, and the cost of living as amongst their top concerns (Stuart, 2010). A more nuanced view is highlighted, however, when questioning allows for a split between global and New Zealand issue priorities. In unprompted explication, roughly a quarter of respondents cited the primary world problem as environmental – predominantly mentioning global warming or climate change – making this the leading area of global concern (Horizon Research, 2014). However, in identifying New Zealand's most pressing issue, these same respondents identified poverty and unemployment as more significant than climate change/environment/pollution (Horizon Research, 2014). The variability in issue priorities at global and local scales appears to

reflect an 'environmental hyperopia' (Uzzell, 2000) wherein threats to proximate spaces are psychologically distanced. Consistent, moreover, with the availability heuristic in research on risk perception (e.g., Slovic, 1987), salient issues such as health, education or water quality are understood as greater priorities. Moreover, these differentiated priorities and fluctuating levels of concern highlight the significance of social and physical contextual factors in driving climate change concern. Factors such as personal experience of extreme weather (Reser, Bradley, Glendon, Ellul, & Callaghan, 2012) or climate-related phenomena like air pollution (Whitmarsh, 2008) can shape individual or regional concern while the global financial crisis (Scruggs & Benegal, 2012), media attention (Boykoff & Yulsman, 2011) or increasing ideological and partisan polarisation (McCright & Dunlap, 2011) could explain this variability at the population level.

Public concern about climate change is socially stratified, however. Concern is most prevalent amongst middle-aged individuals, women, low to medium income earners, and the politically liberal (Horizon Research, 2012, 2014; UMR Research, 2003). The intensity of declared concern about potential impacts on themselves or on society in general declines as age increases, peaking amongst 25-34 year olds and weakening from 55 years onwards (Horizon Research, 2014). This finding is congruent with studies that indicate more environmentally supportive behaviours among younger people (e.g., Korfiatis, Hovardas, & Pantis, 2004). Consistent with research that indicates a greater prevalence of pro-environmental values, beliefs and attitudes in women than in men (Davidson & Freudenburg, 1996), concern on both measures is significantly higher for females. Declining levels of concern also correlate with increasing household and personal income (Horizon Research, 2014; UMR Research, 2003). In terms of political party affiliation, concern by those who voted for the Green

Party at the last election (78%) is contrasted by those who voted for the Act Party (45%) (Horizon Research, 2012).

According to various multinational polls, climate change is similarly reported as a significant concern amongst other population bases (Council on Foreign Relations, 2011; Globescan, 2015; Nielsen, 2009; Pugliese & Ray, 2009; Stokes et al., 2015; World Bank, 2009). In the Gallup 2007-2008 poll, roughly two-thirds of the 61% percent globally who were aware of climate change regarded it as a somewhat or very serious personal threat, while the remainder considered it not very or not at all threatening (Pugliese & Ray, 2009). When examined at the national and regional scales however, there is substantial difference. Excluding again those who are unaware of climate change, the proportion of adults who cite it as a more salient threat is highest in sub-Saharan Africa nations like Mali and Burkina Faso, the majority of South and Central America, and Asian nations like India and Bangladesh. While those considering climate change a serious threat in these nations exceeds 80 percent, the reported levels are significantly less in the United Kingdom (71%), China, (34%), the United States (65%), and Australia (77%) (Pugliese & Ray, 2009). Concern amidst New Zealanders is commensurate, then, with that expressed by publics in similarly developed nations. This primary concern amidst Latin American, African, and the most vulnerable nations is echoed in other polls (Council on Foreign Relations, 2011; Globescan, 2015; Stokes et al., 2015; World Bank, 2009). Concern has also fluctuated substantially in recent years with large increases amongst non-OECD countries since 1998, but declines in both these and OECD countries since 2009 (Globescan, 2015). Within this general fall, according to the most recent Pew poll, are substantial drops amid key economies like China and Japan (Stokes et al., 2015).

In terms of relative priority, the same Pew poll found that climate change is perceived as the top global threat (Carle, 2015). Selecting from seven issues including ISIS, Iran's nuclear program, and global economic instability, global climate change was selected as the top concern among respondents in the majority of countries, particularly those in Latin America and Africa. Other nations, including Australia and particularly those in Europe, North America, and the Middle East cited ISIS as the leading threat (Stokes et al., 2015). Echoing this differentiated picture, a 2009 multinational poll asked respondents what precedence their government should place on addressing climate change using a zero-to-ten scale where ten signified the highest priority (Council on Foreign Relations, 2011). China and the United Kingdom exceeded the mean response of 7.28 while the United States and India fell below.

Worry about climate change diverges according to a range of factors. Echoing the findings of New Zealand studies, data from the 2015 Pew poll pointed to the significance of political ideology as an important predictor with higher levels of concern among those on the liberal or left side of the spectrum (Stokes et al., 2015). Of those respondents who considered climate change a serious problem in Italy, for instance, 69 percent identified as politically left compared with 42 percent on the right. Similarly, in the United States, serious concerns were held by 68 percent of liberals but just 30 percent of conservatives. The same partisan divisions are seen in terms of party identification with higher levels of concern about the personal impact of climate change among supporters of left-leaning parties. In Australia, for instance, just 31 percent of the centre-right Liberal Party supporters expected personal harm, in contrast to 65 percent of Labor Party supporters and 72 percent of Greens. More pronounced levels of concern in the United States were also held by women, by people aged up to 50 years, and by

those on lower incomes. In terms of religiosity, the Pew poll found that in the United States, Canada, and Australia, those who identity as unaffiliated or Catholics are more likely than Protestants to express high concern about the personal impact of climate change (Stokes et al., 2015). At the level of political economy, moreover, public concern is less prevalent among those nations with higher levels of gross domestic product (GDP) per capita (Sandvik, 2008) and carbon dioxide emissions (Stokes et al., 2015).

Given, then, the variation of perspectives across different public groups and at different spatial scales, the widespread self-reported concern about climate change needs to be problematised. Concern is shaped by various contextual factors such as age and political orientation and by whether climate change is viewed as a domestic or global issue. Although extant research provides insight into the role some of these factors have on public concern, there is a lack of New Zealand data concerning for instance, the effects of media coverage, signals from political elites, the variability of concern across regions and rural-urban divisions. Consequently, this thesis explores the relative priority of climate change in public understandings and to the influence of various contextual factors and processes on concern.

2.3.3 Understanding of the causes and consequences of climate change. The belief that climate change is due to human activity is commonplace amongst New Zealanders (Aitken et al., 2011; Milfont et al., 2015; Niles et al., 2014; Sibley & Kurz, 2013; Stuart, 2010; TNS Conversa & NZIER, 2008; Wilson, 2008). Cross-sectional studies present mixed findings about the proportion of New Zealanders that believe in anthropogenic climate change from 38 percent (TNS Conversa & NZIER, 2008), to 66 percent (Wilson, 2008), to 53 percent (Milfont et al., 2015). A 2014 Horizon Poll finds

over half of New Zealanders align themselves with the statement that 'most scientists agree that humans are causing climate change (Horizon Research, 2014). Nevertheless, a large proportion (33%), while accepting the reality of climate change considers 'there is no clear proof that this is caused by human activity (Stuart, 2010), a finding endorsed by the Horizon Poll which shows that a significant proportion (28%) remains neutral on the reality of a scientific consensus about the anthropogenic causes of global warming (Horizon Research, 2014).

Beyond broad close-ended questioning, however, there is less investigation of the New Zealand public's understanding of specific causal factors. An early qualitative study highlighted people's conflation of climate change and other environmental phenomena, particularly ozone depletion (Bell, 1994). In unprompted questioning in the study's pilot survey, most respondents had no knowledge about the causes of global warming, roughly a quarter identified fossil fuels, and a small number mentioned specific greenhouse gases. In the national survey, a majority of respondents (85%) identified CFCs and refrigerants as a causal factor, while just 35 percent cited 'ruminant belching and flatulence' despite agricultural methane being the primary contributor to GHG emissions in New Zealand. Moreover, nuclear emissions (76%) and leaded petrol (69%) were incorrectly selected as causal factors (Bell, 1994). This finding is congruent with political psychology research on an individual's tendency to rely on heuristic cues or mental shortcuts in judgements and decision making (Popkins, 1991; Sniderman, Brody, & Tetlock, 1991). As 'cognitive misers' (Fiske & Taylor, 1984) individuals are said to rely on schemas of personal experience, values, interpersonal relations, and easily available information to make sense of an issue.

The predictors of belief in the anthropogenic cause of climate change are comparable to those of concern. Those New Zealanders who are most likely to accept that climate change is due to human activities are young, female, politically liberal and oriented to left-leaning parties, more educated, and belonging to an ethnic minority (Horizon 2014; Milfont et al., 2015; Stuart, 2010; TNS Conversa & NZIER, 2008; Wilson, 2008). Conversely, these studies also show that the rejection of this view is more pronounced among those who are above 50 years of age, of European ethnicity, male, and affiliated with right of centre political parties. Milfont et al. (2015) also found that scepticism about anthropogenic climate change is predicted by higher levels of socio-economic deprivation and lower levels of education. Moreover, those aged up to 55 are more likely to accept that there is broad scientific agreement on human-caused global warming, a view that is also slightly more prevalent amongst males than females (Leining & White, 2015). Reflecting a reversal of the male-female division on individual views on the cause of climate change, this latter finding may point to the gendered differences in scientific knowledge and attitudes discussed earlier (e.g., Sturgis & Allum, 2001).

New Zealand's widespread public belief in anthropogenic climate change is similarly reflected in other population bases (Globescan, 2015). According to successive multinational Globescan polls since 2000, there has been an increase in the proportion of respondents who consider that extreme weather patterns are human-caused, a trend most apparent in those that blame 'human caused climate change / CO2 levels' (Globescan, 2015). In the 2015 poll, this category ranked equal with 'pollution / other causes' as the leading cause, substantially above the primary non-human cause of 'natural changes / cycles' (Globescan, 2015). Conducted in the United States since 2001,

the annual Gallup Environment poll shows that an increasing percentage of Americans cite the effects of pollution from human activities as the cause of global warming (Saad, 2014). Despite falling short of the 2007 peak of 61 percent, the 2014 poll found that 57 percent of respondents identified human causes, in contrast to 40 percent who selected natural causes. This finding is congruent with that of a recent Eurobarometer study, an annual survey of nationally representative samples in each of the member states of the European Union, in which 55 percent of respondents disagreed with the statement that the emission of carbon dioxide has only a marginal impact on climate change (Eurobarometer, 2008). This position was more pronounced among females, those aged under 55 years, the higher educated, as well as those that identified themselves as more concerned and more informed about the causes and consequences of climate change.

2.3.4 Beliefs about addressing climate change. The belief that collective action by all stakeholders is required to address climate change is prevalent amidst New Zealanders (Horizon Research, 2012). A 2012 Horizon Poll showed that a majority of the public supported more action on climate change by business (68%), citizens themselves (64%), Parliament (64%), the Prime Minister (61%), all government officials (63%) and all political parties (54%) (Horizon Research, 2012).

However, support is mixed for New Zealand's main climate change policy vehicle, the ETS (Horizon Research, 2012; Stuart, 2010; TNS Conversa & NZIER, 2008). In 2012, the proportion of respondents that supported carbon pricing (28%) was roughly matched by those in opposition (32%) (Horizon Research, 2012). A high degree of uncertainty or indifference was apparent, moreover, in the percentage that were neutral (32%) or undecided (11%) on the issue. This was similarly reflected in a 2008 study, conducted shortly before the policy was implemented, when fewer than half of

respondents were aware of the ETS (TNS Conversa & NZIER, 2008). Mixed support was echoed in a 2010 survey where nearly half of New Zealanders considered carbon pricing an unfair method of incentivising the reduction of emissions compared with just 32 percent who thought it fair (Stuart, 2010). Framed as an international tax, however, support was more prevalent with 49 percent thinking it fair that nations pay tax or receive credits predicated on reaching their emissions targets and 35 percent finding the idea unfair.

Concerning the dimension of self-efficacy, or the perception about the usefulness of one's own actions, New Zealanders are nearly equally divided (Horizon Research, 2014). The Horizon 2014 survey found that 42 percent disagreed that their actions to mitigate climate change would make no difference, while 37 percent agreed and the remainder were neutral. Responses to the statement 'my actions to reduce climate change will encourage others to act' reflected a similar distribution with 44 percent in agreement and a large minority (25%) taking a neutral stance (Horizon Research, 2014).

In terms of mitigating actions at the household scale, New Zealanders express their likelihood to engage in some activities more than others (Horizon Research, 2014). A majority of people are at least somewhat likely to install energy saving products such as light-bulbs, to conserve water, or to reduce energy use for lighting and temperature control, but a minority reported any probability of reducing/avoiding travel by car or by air, or reducing/avoiding their meat consumption. Amongst a range of motivating factors to reduce individual energy use, financial support for energy efficient products was cited by the majority of New Zealanders as the leading stimulus, followed by information provision and community collaboration. Similarly, only a minority

expressed any likelihood of engaging in more public activities such as promoting pro-environmental policies in conversation with friends and family or voting according to environmental imperatives (Horizon Research, 2014). Conversely, a 2010 study showed a broad willingness of respondents to reduce air travel, increase their use of public transport, and install solar panels but reflected the phenomenon of an action-attitude gap (e.g., Blake, 1999; Kollmuss & Agyeman, 2002) in finding the proportions who currently undertook those actions was substantially less (Stuart, 2010).

New Zealanders' views on climate change responses are predicated on a number of factors, however. Support for the ETS is more pronounced for females, younger age groups, self-identified Labour Party and Green Party supporters, higher income households, and the environmentally conscious, while it is less evident among males, those aged over 45 years, National Party and Act Party supporters, and those of a European ethnicity (Horizon Research, 2012; Stuart, 2010; TNS Conversa & NZIER, 2008). Concerning household mitigation actions, females are more likely than males to engage overall (Horizon Research, 2014; Stuart, 2010). There is a uneven distribution of the intention expressed by various age groups for various activities, but on average those people aged 65-74 express the greatest likelihood of acting. Congruent with findings on the significance of personal beliefs in driving climate action (e.g., Aitken et al., 2011; Milfont, 2012), those New Zealanders who perceive greater personal risk from global warming are more likely to undertake actions aimed at reducing emissions while those with diminished levels of perceived personal efficacy are negatively inclined (Leining & White, 2015). A gendered aspect to climate action is also reflected in terms of public actions with females being more likely than males to vote for a candidate (38% versus 32%) or boycott companies (38% versus 33%) for environmental

reasons (Horizon Research, 2014). Younger New Zealanders are also more likely to engage in most such activities than those aged over 34 years. Along with those aged under 55 years, females have higher levels of self-efficacy than males, with more women believing that their actions can make a difference (48% versus 35%) and influence others to act (50% versus 39%) (Horizon Research, 2014).

Turning to the public's views on responses to climate change among other population bases, there is broad support for action. A World Bank multi-country poll in 2009 found that clear majorities of people (an average of 88%) in all nations considered that their country had a responsibility to deal with climate change and in all but three nations they thought their government was doing too little (World Bank, 2009). Moreover, the majority in 10 of the 15 countries surveyed agreed that increases in energy costs would be needed to incentivise conservation and alternative energy sources, although respondents in the United States were almost equally divided on the issue. When this extra cost was quantified as a percentage of GDP, respondents in all countries but Russia expressed their willingness to pay for climate action. Similarly, majorities in most nations supported to some extent their country taking steps to address climate change through a range of policies, primarily the preservation of forested areas and limits on the construction of coal-fired power plants (World Bank, 2009).

2.4 Summary

The preceding review has highlighted the paucity of qualitative research into the lived understandings of climate change, particularly within the New Zealand context. Largely quantitative in nature, extant research has been often inattentive to the sociocultural influences of opinions and the complex ways in which people interpret and act on climate change. From international research, much is known about the

public's views on the causes, consequences and solutions pertaining to climate change. However, more in-depth and localised analysis is required to make sense of how New Zealanders form and express their understandings in order to develop tailored strategies for mobilising action and engendering support for climate policy.

3. Methodology

3.1 Introduction

Methodological literature (e.g., Denzin & Lincoln, 2017; Flick, 2014; McNabb, 2010) emphasises that the choices made concerning the approach, methods, and analytical means of a research project should be considered and congruent with its goals. Methodology must be fit for purpose and the process of its design articulated so that, like the findings, it can be scrutinised. This chapter thus describes and defends the researcher's decisions and procedures concerning design including strategy, sampling, data collection, and data analysis. Lastly, it provides comment on ethical considerations and issues of quality and validity.

3.2 Research design

Reflective of this study's goals and the qualitative methodology undertaken to address them, the researcher's approach to design has been deliberate but dynamic. In this way, it has followed the directions of authors (Hammersley & Atkinson, 2007; Maxwell, 2013) who characterise qualitative research design as flexible, fluid, and reflexive. Design, while providing guideposts through the research process must be sufficiently adaptable to address different aspects of the study as they arise. This section describes and justifies the design of the study. In doing so, it covers the research purpose, goals and question, the philosophical and conceptual framework, the strategy of inquiry, sampling protocol, and the methods of data collection and analysis.

3.2.1 Research purpose and goals. The purpose and goals of a study facilitate the development of an appropriate methodology and adequate methods. Both research design and purpose must be congruent (Maxwell, 2013). As discussed in Chapter 1, the purpose of this research was to explore New Zealand public opinion on climate change,

expressed through understandings and lived experiences. Exploratory research, as McNabb (2010) described, involves a preparatory investigation of an issue or phenomena to uncover insights and potential variables as a prelude to descriptive or explanatory research. With little known about the object of study, the research is usually qualitative, flexible and unstructured (McNabb, 2010).

Serving this broad purpose are a series of personal, intellectual and practical goals. Personal motivations are addressed in section 1.4. Intellectually, the overarching aim was to build a greater understanding of both the content and the possible determining factors of New Zealanders' climate change opinions and the relation of this opinion to policy preferences and individual behaviours. This was expressed in the following three subgoals: first, to understand the meaning of climate change for participants; second, to understand how these meanings are shaped by contextual factors; and third, to understand how these meanings link to policy preferences and actions. Finally, a practical goal is to generate findings that add to the evidence base and inform the aims of climate change communicators, policymakers and activists.

3.2.2 Research question. Considering this purpose and associated goals, the study was framed by the following question: How do New Zealand citizens make sense of climate change and how do these understandings relate to their climate-related policy preferences and actions?

3.2.3 Philosophical and conceptual framework. This section outlines and justifies the philosophical and conceptual underpinnings of the study.

3.2.3.1 Rationale for an interpretivist research paradigm. The study was based on an hermeneutic variant of the interpretivist paradigm. Although space constraints prevent an exposition of its assumptions here, the interested reader is directed to

informative literature (e.g., Bevir & Rhodes, 2003; 2006; Dryzek, 1990; Hoppe, 2011; Weber, 2009; Yanow & Schwartz-Shea, 2006). Following, instead, is a rationale for its adoption in this study.

The researcher's ontological and epistemological proclivities influenced the choice of paradigm. As Furlong and Marsh (2010) have argued, a researcher's paradigmatic position is "a skin not a sweater" (p. 184). To facilitate a strong research design, it is asserted, the researcher should select a paradigm that resonates with their own views of reality (Mills, Bonner, & Francis, 2006). However, a paradigm should also be appropriate to a study's goals, questions and sociocultural context (Lincoln & Guba, 1985). As part of the rationale, the following comments thus relate the strengths of interpretivism to the specifics of the study.

Situating a study in the interpretivist paradigm is helpful in developing an understanding about how New Zealanders make sense of climate change. First, the study's central goal aligns with that of the interpretivist approach in understanding subjective meaning and the social construction of reality (Furlong & Marsh, 2010). The second reason centres on interpretivism's stance on the mutually constitutive relationship of meaning and action. The interpretivist claim is that each individual makes sense of their social lifeworld within a dynamic system of socially constructed and shared meanings, and that the individual's behaviours are the extension or product of these subjective interpretations (Crotty, 1998). Aligned to this connection of meaning and behaviour, the study sought an understanding of how individual New Zealanders interpret climate change and examined how these interpretations translated into action and policy preferences. Conversely, the use of a paradigm that sought to differentiate a behaviour from a belief in order to identify some correlative relationship would give an

atomistic understanding of the intersubjective meanings underlying action. Moreover, a strength of interpretivism is that it emphasises culturally and temporally situated understandings of the social world (Crotty, 1998). The study's use of an interpretive framework addresses the concern of Nisbet (2011) that climate change public opinion "needs to be studied [...] as a process that emerges from social context, interaction, and communication" (p. 355). Thus Nisbet criticises the predominantly survey-based research for its scant consideration of the situatedness and relationality of opinion. Interpretivism meets this critique, asserting that reality as we know it is socially constructed and manifold and that meaning-making occurs in a particular context and through interaction in social groups (Prasad, 2005; Willis, 2007). It facilitates a holistic, detailed and contextualised exploration of participants' lifeworlds by focusing on interpretations and social process (Schwandt, Lincoln, & Guba, 2007). These perspectives were valuable in seeking to explore New Zealanders' multiple, complex and dynamic realities of climate change.

3.2.3.2 Rationale for naturalistic qualitative research design. Typically associated with anti-foundationalist, interpretivist or constructivist philosophical perspectives, the qualitative paradigm is concerned with how the world is understood, interpreted, experienced, constructed and constituted in the particular temporal, spatial and social context of the participant's reality (Crotty, 1998; Denzin & Lincoln, 2017; Flick, 2014; Maxwell, 2013; Patton, 2014).

Given this focus, the qualitative approach held two distinct strengths for this project. The first concerns its capacity to create deeper insights. It is able to build a depth of understanding of meaning and processes (Patton, 2014), it affords greater potential to explore beliefs and attitudes (Harrison & Startin, 2013), and it can

synthesise and control data without destroying its context and complexities (Atieno, 2009). This is in contrast to the reductionism of the quantitative approach and the inherent risks of limiting discovery (Atieno, 2009) and of reaching a superficial understanding of the issue. Related to this depth of insight, there is a greater reliance on the participant's perspectives and actions (Harrison & Startin, 2013) with most qualitative methods allowing for a freedom of response (Patton, 2014) unlike, for instance, the constraints of quantitative survey methodologies. Second, the inductive process means the approach is effective at generating theory from the rich and nuanced empirical observations (Flick, 2014). As discussed in chapter two, political behaviour and public opinion research remains focused on quantitative measures with negative implications for theoretical development. Amongst criticism of quantitative polling methodology (see, for example, Bishop, 2005; Blumer, 1948; Broughton, 1995; Crespi, 1988), some writers have argued that a lack of methodological pluralism has lead to "theoretical conservatism" (Devine, 1994, p. 215) and "few signs of substantial progress" in the study of political behaviour (Dunleavy, 1990).

The quantitative approach does, however, have weaknesses. As Rubin and Babbie (2014) discussed, these centre on the issues of generalisability and subjectivity. Concerning subjectivity firstly, in qualitative studies the researcher is normally the primary instrument of data collection and analysis (Denzin & Lincoln, 2017; Miles & Huberman, 1994). The researcher's prior experiences and preconceptions – their various values, assumptions, interests, and theories – are brought to be bear on the research project. Invoking a problem of interpretation (Harrison & Startin, 2013), therefore, one researcher's observations or assessment of data is unlikely to be entirely echoed by another (Rubin & Babbie, 2014). Given, however, the epistemological position of this

study and the method adopted, subjectivity is seen as important rather than problematic. The salient point is instead to foreground that subjectivity, both by the researcher's reflexive engagement throughout the research process and by articulating the researcher's positionality to readers (see section 1.4). Accordingly, the impact of researcher subjectivity on the study and its findings can be managed and evaluated. Related to this first weakness is the low generalisability of findings in qualitative studies (Flick, 2014). Unlike the quantitative paradigm, the atypical, in-depth, nature of qualitative data and the use of small sample sizes precludes generalisation (Babbie, 2016; Harrison & Startin, 2013). Again, such critique tends to rest on positivist approaches to knowledge that are at odds with the philosophical grounding of this study. Rather than generalisability, therefore, this study established transferability as an assessment criterion. The reader is directed to section 3.4 for further details.

3.2.4 Strategy of inquiry: Interpretative phenomenological analysis. While various strategies were considered, including grounded theory and ethnography, the research adopted IPA as its methodological approach. An overview and justification of this strategy follows.

IPA is a inductive and experiential qualitative approach, which examines how people make sense of their everyday private and social world so that an understanding of the meanings that significant events or experiences hold for them can be revealed (Smith et al., 2009; Smith & Osborn, 2015). With its theoretical underpinnings in phenomenology, hermeneutics and idiography, IPA is a recently introduced methodology (see Smith, 1996) that is spreading from its origins in psychology to be used in other social sciences (Smith et al., 2009). IPA is concerned with an insider's and individual perspective on an experience rather than developing an objective or fixed

account (Smith & Osborn, 2015). It is focused on a detailed and holistic exploration of the particular person's thoughts and feelings about an event and their attempts at making meaning from it. As such, IPA studies conventionally have a small quantity of participants, and, while connections between accounts and general themes about the experience may arise, it is only after the analytical potential of each case has been actualised (Smith et al., 2009). The approach also recognises, however, that gaining a participant's perspective is contingent on and obfuscated by the researcher's own preconceptions and experiences. Entailing dual simultaneous interpretative processes, the researcher is attempting to make sense of the participant who is attempting to make sense of the experience (Smith & Osborn, 2015). Data collection in IPA is usually achieved through semi-structured interviews, which employ a flexible interview schedule that is guided by the concerns or interests of the participant (Smith & Osborn, 2015), although methods including focus groups, questionnaires, and observation are also consonant (Smith et al., 2009).

Given these characteristics, IPA was judged to align with the study's epistemological underpinning, purpose, goals, and question. The strategy's idiographic focus on subjective experience resonated with the examination of individual understandings of climate change. Moreover, its flexibility and inductive approach was thought to be particularly suited to the explorative purpose and the complexity of the phenomenon under investigation. IPA was also selected for its capacity to address the critiques of research into public opinion and political behaviour, which were described in the introductory chapter. IPA possesses a strong ability to examine the complex webs of meaning which underlie public opinion on climate change.

3.2.5 Sample. Sampling should be theoretically consistent with the methodological paradigm (Smith et al., 2009). Typically, in the quantitative tradition, sampling is done in order to make inferences about a population. A sample that is representative of the wider population is sought to facilitate the generalisability of a study's findings. A comparable notion in the qualitative approach is transferability. Here, then, the purpose of sampling is to allow findings to be transferred to other contexts or settings. This section describes and justifies the sampling procedures used, considering the eligibility criteria, the sampling strategy, the recruitment process, and the sample size. Details about the participants follow these comments.

3.2.5.1 Eligibility criteria. The core research question focused on the climate change understandings of New Zealanders. The target population thus included all residents of New Zealand. The sample frame focused on all households with individuals of voting age and, for reasons of ethical constraint, excluded children, those people unable to give informed consent, and those in institutionalised settings such as prisons or hospitals. Due to the researcher's lack of capacity in other languages, a proficiency in English was also required of participants. Practical constraints restricted the geographic location of households to those within a 50 kilometre radius of the researcher's study site.

3.2.5.2 Sampling strategy. Consistent with the study's qualitative approach, the sampling strategy entailed a purposive maximum variation technique to select sites and units. In exploratory and qualitative studies a non-probability sampling method is conventional and appropriate (Denzin & Lincoln, 2017; Miles & Huberman, 1994). As Daniel (2012) has noted, exploratory research does not seek to make generalisations to a larger population but rather, for instance, to yield insights about a topic, to generate

hypotheses, or to develop methods for future research. A purposive sample facilitates the collection of richer data about the phenomenon under study (Langridge, 2007). Representativeness of the population is not necessary in this regard. As one of two broad types of non-probability sampling, purposive sampling entails the selection of units on the basis of the researcher's judgement using certain criteria about their usefulness to the research purpose (Babbie, 2016).

Within the stable of purpose sampling strategies, the maximum variation technique used here involves looking for cases or individuals that cover the extreme and typical positions or perspectives of the phenomenon under study (Patton, 2014). The technique entails selecting relevant and diverse characteristics for constructing the sample (Patton, 2014). In choosing this strategy, it is possible both to achieve a rich body of unique understandings and to uncover shared patterns across the sample.

Purposive sampling is also consistent with IPA's theoretical orientation, given that what is sought is representation of a particular perspective on the phenomenon under study rather than a population (Smith et al., 2009). It is less consistent, however, with the maximum variation technique. In accord with the inductive logic of IPA, argued Smith et al. (2009), studies conventionally engage a homogenous sampling technique in order to examine the psychological variability within the group. But as these authors noted, the extent and definition of this homogeneity varies according to the demands of each study. Climate change is understood in this study as a universal, but variably experienced, phenomenon. Homogeneity is achieved in this study, in other words, because all members of the frame from which the sample is drawn experience climate change. Moreover, positing the example of a study with a large population, as is the case in this study, Smith et al. (2009) saw logic in factoring in significant socio-

demographic variables. That same logic is applied here in sampling for maximum variation according to key psychographic and demographic factors. Given the lack of research into New Zealand understandings of climate change, the researcher considered it prudent to obtain a sample that reflected a broad range of such factors so as to widen the application of the study's findings. The technique does have limitations, however. These echo the shortcomings identified by Babbie (2016) of a similar strategy, quota sampling. Thus maximum variation relies on the researcher's knowledge of the phenomena and the population in order to select relevant characteristics and then their judgement in identifying extreme cases.

Guided, then, by existing international research (see Chapter 2) on the influential factors of climate opinion, maximum sample diversity in this study was sought according to criteria of age, gender, geographic location (rural/urban), political ideology, education, and ethnicity. The researcher intended to use a sampling matrix of these variables to ensure both coverage and diversity during the recruitment of participants. First, the researcher sampled two sites, from which sample units would be drawn. The researcher's personal knowledge and statistics from the 2013 New Zealand Census was used to select concentrated sites of diversity for the criteria above. For the urban site, the suburbs of Mt Roskill and Mt Albert in Auckland were selected. A small town in the northern Waikato region was selected as the rural site. Given the small size of this town and the potential for individuals to be identified if its name is given, the pseudonym of 'Smallham' is used instead. Practical constraints of travel time and expense also drove these selections.

3.2.5.3 Recruitment. In a process guided by Davies (2011), the participants were recruited in 2015 by leafleting households on the streets of the selected sites, and

subsequent door knocking to talk with residents. The researcher had considered recruitment using the telephone or a virtual or physical notice board technique, but perceived a face-to-face method would offer more opportunity for informed consent as well as a higher response rate. The leafleting and door knocking approach was also seen to offer the potential to enrich the quality of the study through its ability to capture an ethnographic understanding of the spaces occupied by prospective participants (Davies, 2011). The researcher first visited each of the sites on different days to select the streets to be targeted by observing and noting indicators of socio-economic diversity, including, for instance, the size of homes, the age and ethnic mix, and the degree of household maintenance. A leaflet/information sheet was then delivered to the letterboxes of households in the selected streets, which gave comprehensive but concise detail aimed at facilitating informed consent (see Appendix B). A total of approximately 500 households were targeted in the rural and urban sites. Within a week, the researcher knocked on the doors of the leafleted households to discuss the research with residents and answer any questions. Considerable sensitivity was applied to avoid pressuring individuals into participation, and care was also taken to conform to eligibility criteria, clarifying this if necessary. If a resident was willing to participate, a written informed consent form was completed (see Appendix C) and an interview was arranged. A $25 grocery voucher or an equivalent was offered to participants as a token compensation for their time.

During the recruitment process it became clear that achieving diversity using a sampling matrix was not going to be possible due to the low yield of participants. The researcher had intended to ask each participant a brief series of questions (see Appendix D) upon the receipt of the informed consent form in order to collect the data for the

requisite demographic and psychographic criteria, then enter this information into the sampling matrix, and select a sample according to the established sample size of six individuals for maximum variation. Instead, as the quantity of participants recruited equalled the requisite sample size, and timing constraints prevented the expansion of the recruiting process, the sampling matrix process was relinquished and these questions were asked at the completion of each participant interview (see section 3.2.6.3). Nevertheless, sampling achieved a wide variation among the participants according to the established criteria (see section 3.2.5.5). The socioeconomic diversity of the selected sites are thought to be instrumental in this regard.

3.2.5.4 Sample size. Six individuals were sampled for data collection. This number was determined both by the requirements of the IPA approach and by practical constraints. With a focus on generating rich and detailed accounts of how individuals understand climate change, a small sample is appropriate. Consistent with its idiographic focus, IPA seeks depth in each narrative rather than breadth or data saturation (Smith & Osborn, 2015). Analysis demands time for reflective interaction with the text. Given this focus on quality rather than quantity, a reasonable sample size in IPA studies is between three and seven participants (Smith et al., 2009; Smith & Osborn, 2015). This number was also chosen according to the study's time constraints for data collection and analysis.

3.2.5.5 Participants. The sampling method engendered a diversity in the participants selected for the study, according to age, gender, geographic location, political ideology, education, and ethnicity. Table 3.1 illustrates the participant demographics and psychographics. This information was self-reported by the participants and captured at the time of data collection (see section 3.2.6.3). Thus, the

participants included four women and two men ranging in ages from 18+ to 68+, they were evenly split between the sampled rural and urban sites, and they represented a wide range of political views and educational and ethnic backgrounds. The pseudonyms shown in Table 3.1 were created on confirmation of participation and used in order to preserve the participants' anonymity. Beth, Frances, and Peter were residents of the urban site while Eric, Janet, and Quinn lived in the rural township, 'Smallham'.

Table 3.1.

Participant demographics/psychographics

Variable	Age Range	Gender	Political Ideology	Preferred Political Party	Education	Ethnicity	Household Income Range	Religion	Main source of NZ/world news and current affairs
Participant									
Beth	49-67	Female	Liberal/ Moderate	Labour/ Green	High school graduate	Kiwi/NZ	$55,500 -$82,499	Nature	TVNZ1, Al Jazeera, CNN
Eric	68+	Male	Liberal	Labour	Less than high school	Kiwi/NZ	Under $32,100	None	Television News
Frances	49-67	Female	Liberal	Green	Tertiary post-grad	Kiwi/NZ	$55,500 -$82,499	Christian	Internet, Listener, Herald, Avaaz
Janet	31-48	Female	Moderate	National	Tertiary graduate	European	$32,100 -$55,499	Christian	Newspapers, career journals
Peter	18-30	Male	Liberal	Prefer not to answer	High school graduate	Latin American	$32,100 -$55,499	None	Wikipedia
Quinn	31-48	Female	Liberal/ Moderate	Labour/ Green	Tertiary graduate	Kiwi/NZ Asian	$82,500 -$123,299	None	RNZ National, Internet

3.2.6 Data collection and management. This section describes and defends the instruments and procedures used in data collection, and outlines the data management protocols.

3.2.6.1 Instruments and procedures. The exploratory and human-centred nature of the research problem demanded the collection of rich and complex experiential data and was therefore consistent with instruments such as observation, in-depth interviews, focus groups, and case studies. Beyond the need for rich data, however, the idiographic commitment of IPA studies is best suited to techniques that capture the experiences of

participants in their own words (Smith et al., 2009). Thus, the IPA approach resonates particularly with in-depth interviews and personal diaries, yet is also congruent with other instruments used in exploratory research.

Although such techniques were therefore considered as consistent with the research problem, in-depth semi-structured participant interviews were selected as the primary method of data collection. For Langridge (2007), the semi-structured interview entails a trade off between consistency and flexibility. Combining aspects of structured and unstructured interview forms, this method employs specific but open ended questions and provides degrees of freedom to both the researcher and the participant to shape the direction and content of the conversation (Brinkmann & Kvale, 2015; Rubin & Rubin, 2012; Smith & Osborn, 2015). According to Smith et al. (2009), such one-to-one interviews, like diaries, provide the optimal means for harvesting the rich first-person experiential accounts demanded by IPA. Interviews are easy to manage, allowing the building of rapport and facilitating the participant's reflection and free expression of detailed stories, thoughts, and feelings (Smith et al., 2009). Furthermore, the flexible structure and openness of the questioning gives the participant more control of the extent and content of their disclosure and thus works to redress the power inequities in the researcher-participant relationship. Beyond the latitude offered to participants, however, the flexibility and dynamism of the semi-structured interview form allows the interviewer to probe specific topics of interest or investigate unanticipated responses (Brinkmann & Kvale, 2015; Rubin & Rubin, 2012). The method is also consonant with IPA's conception of the researcher-participant relationship, wherein the researcher attempts both to adopt an insider's perspective and

to challenge or examine the participant's experience, thus combining a hermeneutics of empathy with one of questioning (Smith et al., 2009).

Apart from these strengths, various weaknesses of the instrument were also considered (Kvale, 2007). First, the qualities of subjectivity, flexibility, reflexivity and social interaction that are inherent in the semi-structured interview introduce the potential for various forms of bias. Together, researcher and participant positionalities and the features of the method may distort the data and its interpretation. For instance, altering the order or phrasing of questions, probing particular areas of interest to the researcher, or using assumptive questions introduces the potential to lead the participant. Reflective of a reactivity bias, the researcher's facial gestures or posture may influence the participant's responses. In answer to the charge of bias, however, the subjectivity entailed in the technique is not to be avoided. Given the epistemological grounding of the study, there is no claim of objectivity. Instead, the key is to foreground that subjectivity and implement it as a resource to enrich the study (King & Horrocks, 2010). Further comments concerning the strategies implemented in this regard are found in section 3.2.6.3. A further weakness of the method is that the quality and richness of the data gathered is firmly reliant on the skills of the interviewer. Thus an unskilled interviewer risks introducing biases, failing to build rapport, or being insensitive to the interview dialogue and adjusting the questioning appropriately. In this regard, the researcher's previous experience in interviewing gained through his professional work was advantageous. The skills gained in focus groups and one-to-one interviews thus prompted the researcher's decision to conduct the participant interviews personally.

3.2.6.2 Interview schedule. The aim in creating a schedule for IPA interviews is to foster a relaxed interactive space that encourages the participant to provide a rich

descriptive account of the phenomenon under investigation (Smith et al., 2009). A schedule is important, not in terms of enhancing reliability in relation to traditional quality assessment criteria, but in acting as a map to navigate through any challenges during the interview and to facilitate the researcher's attentiveness and responsiveness (Smith & Osborn, 2015). In preparing the schedule, therefore, several guidelines in common with IPA interviewing were considered. Firstly, supporting the participant to speak at length, the type of question favoured was broad and open-ended. Second, care was given to avoid questions that were loaded with assumptions or those that would lead the participant towards predetermined answers. The third guideline concerned the length of the interview and quantity of questions. The typical duration of an in-depth interview according to Smith et al. (2009) is an hour or longer. Sufficient time is needed to establish rapport and allow the participants to articulate a full and rich account of their experiences and thoughts (Reid, Flowers & Larkin, 2005). Thus, the researcher allocated an approximate length of one hour for each interview entailing six to seven questions.

The researcher then undertook an iterative process in creating the schedule, led by the research question, informed by relevant climate change and public opinion literature, and guided by relevant methodological literature (Smith et al., 2009; Smith & Osborn, 2015). This process involved: establishing the broad topic (climate change related experiences and understandings); setting and sequencing the sub-topics (beliefs, risks, actions, media/elites), constructing appropriately worded questions to address these topics; and setting potential probes to possible responses to these questions. A series of visual prompts were assembled, which formed part of this schedule. As brief excerpts of broad ranging climate change related articles from purposively selected New

Zealand news media publications, these prompts were to be read by the participant during the interview and were intended as conversational triggers. Lastly, the researcher conducted a pilot interview with a colleague to test the flow of questioning and memorise the schedule. A copy of the schedule and the visual prompts are found in Appendix E, and comments concerning its use during the interview process follow.

3.2.6.3 Interview setting and procedures. Scholars argue that the appropriateness of an interview setting should be determined by the subject matter (Adler & Adler, 2002) and that it should allow the participant to freely express their perceptions about their life and world (Brinkmann & Kvale, 2015). Following his own experience and the recommendations of King and Horrocks (2010), the researcher sought to build rapport and a relationship of trust by giving the participant some control over the interview location and time. Allowing the interviewee to select a non-threatening, convenient, and familiar environment was seen as an important step in facilitating open sharing and in equalising power imbalances in the researcher-participant relationship. Participants were given the option therefore to conduct the interview at a time of their choice in a public place, or, by unprompted request, in their home. All participants apart from one opted to hold the interview at their residence. Interviews were audio-recorded on a digital password-protected device with the participant's approval, and transcribed and anonymised by the researcher for analysis (see section 3.2.7). Throughout the research process, including data collection, the researcher also kept a reflexive journal in which was noted field notes, interpretations, reflections, and reactions. This contextualised and enriched the interview data, and, following authors including Patton (2014) and Lincoln and Guba (1985), allowed the researcher to reflect on the ways in his values and interests shaped the study. These

reflections also conscientised the researcher to any potential researcher-participant power disparities during the interview interactions themselves.

The researcher arrived near the interview location a few minutes prior to the agreed time to record field notes in the reflexive journal, including salient descriptions and reflections. Mindful of the semiotic significance of clothing, he wore smart casual attire to lessen any relational power imbalance with the interviewee. Before the interview commenced, the researcher engaged in brief informal conversation with the participant to build rapport then conducted an initial briefing. In this space, the researcher gave the participant a further copy of the information sheet, described the interview process and style, sought approval to audio-record the session, and asked if there were any questions. Attentive to researcher-participant power relations, a key aspect to this briefing was placing the participant at ease, conveying interest in their experiences, communicating the researcher's role as a listener in a one-sided conversation, and dispelling any notions of right or wrong answers. The interview then commenced using the schedule discussed above, although, characteristically of this data collection method (Smith et al., 2009), it was applied flexibly and responsively. Pursuant to the inductive and idiographic approach of IPA, the aim was to enter the lifeworld of the participant rather than adhere to a strongly predetermined or prescriptive structure. Thus the researcher was open to changing the sequence and phrasing of questions, or to leaving a question out in order to adapt to a participant's particular responses or concerns. During the course of the interview, the researcher was alert to any emotional distress displayed by the participant and was prepared to pause or end the interview if needed. The researcher held a debriefing at the completion of the interview, during which he answered any questions from the participant and enquired

into their experience of the interview. The researcher also gave the participant a form which asked a series of short demographic and psychographic questions (see Appendix D). These questions were initially intended to form part of the sampling process (see section 3.2.5.3). Immediately following the interview, the researcher noted any significant observations, reflections, and learnings about the process in the reflexive journal. Four of the interviews lasted approximately one hour. However, with the mutual agreement of the participant and the researcher, the richness and flow of conversation drove the remaining two interviews closer to two hours in duration. All participants gave their permission to audio-record the interviews.

3.2.6.4 Data management. An anonymisation strategy and codes were created once the participants were confirmed and this was stored in an encrypted file on a password protected computer. The reflexive journal was kept in a locked filing cabinet when not in use by the researcher. Within the journal, pseudonyms were used when referring to participants. Interviews were digitally audio-recorded on a password-protected device with the permission of participants. At the completion of each interview the digital file was encrypted and transferred from the recorder to a password-protected computer. The interviews were transcribed verbatim and electronic copies were encrypted and stored on this same computer and a password-protected removable storage drive. File names used the pseudonyms of the participants. Printed copies of the transcriptions and any identifying study materials, and the signed participant consent forms were stored in a locked filing cabinet. An audio copy of the participant's interview was sent to those individuals that requested this on their consent form. At the conclusion of the study all printed and digital copies of the interviews held by the researcher were deleted or destroyed.

3.2.7 Data analysis. This section describes and justifies the procedures taken in data analysis. It considers, first, the steps taken in transcription and then turns to the stages of data analysis.

3.2.7.1 Transcription. Each interview was transcribed verbatim from its audio recording into a digitised document by the researcher. Nevertheless, it is important to note that transcription is a partial reconstruction of a participant's account rather than an objective representation and entails principled and practical judgements about what verbal and non-verbal expressions to include and how to record them (Arksey & Knight, 1999; Bailey, 2008; Smith et al., 2009). Following Bird (2005), by undertaking the transcription oneself rather than outsourcing the task, the researcher was able to become immersed in the data, to capture its subtleties and complexities, and to become attuned to the participant's experience. Transcription occurred as soon as possible after the interview was conducted. This proximity aided the recall and recording of any comments that were not captured on the audio as well as pertinent non-verbal expressions. Each final transcript was firstly read and secondly reviewed while listening to the audio recording to highlight and then resolve any discrepancies, missed observations, or errors. The transcriptions were then prepared for analysis in a tabular format with columns for thematic development and exploratory notes on either side of the narrative. A sample page of a transcribed account is found in Appendix F and further details concerning the applied transcription conventions are noted in Appendix G.

3.2.7.2 Data analysis process. This study employed a systematic yet flexible framework of analysis as provided by Smith et al. (2009). Being new to IPA, the researcher saw merit in following the distinct stages described by these authors whilst

maintaining a degree of manoeuvrability to preserve a critical stance and avoid the potential of a limited analysis. An outline of the ethos of IPA analysis and the analytical process follows.

Characterised as inductive, iterative, fluid, and emergent, IPA analysis requires the researcher to reflectively engage with the participants' contextualised efforts to make sense of their experiences (Smith et al., 2009). Strategically, the analytical process entails rigorous and methodical analysis of each participant's experiential understandings, the identification of emergent themes within and across these accounts, an active and reflexive dialogue with the coded data to uncover the meanings for participants captured in these patterns and thereby build an interpretive account, and the development of a thematic gestalt to represent the structural relationship between the themes. The analytical process demands a continual shift between emic and etic positions, wherein the researcher makes an iterative move from a phenomenological to a interpretive perspective in order to understand the participant's experiences (Reid et al., 2005).

Following Smith et al. (2009), the first analytical step involved immersion in the original data. Reflective of IPA's idiographic commitment, the aim here, through reading and re-reading, was to ensure that the analytical focus centred on the participant. This strategy entailed listening to the audio recording of the first interview whilst reading a printed copy of its transcript and bracketing off personal recollections, thoughts, and observations of the interview experience in journal notes. These early descriptive comments were hand written in the exploratory notes column next to the relevant passage of the transcript.

This process merged with the second step of analysis, and entailed examining the semantic content of the transcript. The aim of this step was to engage deeply with the text through reading and re-reading and to produce a rich set of exploratory and more interpretive comments according to three areas of focus: descriptive; linguistic; and conceptual. Conceptual comments attended to the participant's overarching understanding of matters surrounding climate change and thus moved from the meanings attached to specific experiences to broader ideas. Again, these comments were recorded in the right-hand notes column of the transcript.

The third step in analysis was the identification of emergent themes. The researcher examined the exploratory notes and looked to produce short thematic phrases that expressed the psychological essence of the passage with which it was associated. These were recorded in the left-hand thematic development column of the transcript. A sample page of an analysed transcript is found in Appendix H.

In the fourth step, the researcher looked for links across these emergent themes. The aim, in this step, was to map the patterns of connection between themes and to develop superordinate themes and an overall thematic structure. Emergent themes were printed out and assembled on separate bits of paper. In a process of abstraction, similar emergent themes were clustered together to give rise to potential superordinate themes. To look for contradictions and consistencies in these interpretations and to maintain a close connection to the data, a second process involved compiling a document of relevant transcript extracts for each emergent theme. As the mapping progressed, therefore, the researcher discarded those themes that were seen as incoherent with the developing structure or lacking in evidential grounding. This step continued until the researcher felt that a comprehensive analysis had been achieved, which preserved the

essence of the participant's account. The researcher then compiled a table to illustrate the structure of the emergent themes.

This process was repeated for the transcript of each participant. The bracketing of findings from previous transcripts respected the individuality of climate change understandings and allowed unique themes to emerge.

In the final step of analysis, the researcher looked for patterns across the accounts. With the aim of establishing higher order concepts as well as case by case idiosyncrasies, the tables created for each transcript were examined for thematic relationships and strength. From this analysis a master table of themes was created that illustrated both the nesting of themes within superordinate themes and their expression by each participant. Thus, this master table provided a framework to interpret the New Zealanders' understandings of climate change.

3.3 Ethical Considerations

To preserve the integrity of the study, it was important to protect the rights and wellbeing of all stakeholders involved. Moral integrity is a key aspect to a study's trustworthiness and validity (Hesse-Biber & Leavy, 2006). Nevertheless, the literature on ethical issues (e.g., Berg, 2004; Creswell, 1998; Hesse-Biber & Leavy, 2006; Sieber, 1992) also agree on a less utilitarian and more deontological position whereby researchers have a ethical duty to their participants, associated institutions, and society at large, given, as Berg (2004) described, they delve into human lives. This literature also points to key ethical issues to be addressed by a researcher including informed consent, maintaining confidentiality, the protection of privacy, providing benefit, the minimisation of risk and harm, and veracity. A researcher should predict and proactively attend to any such ethical matters during all research phases from problem

formulation through to dissemination of the findings (Creswell, 1998; Hesse-Biber & Leavy, 2006).

As part of the research design process, therefore, an ethical analysis was conducted by the researcher according to the Massey University (2015) Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants to highlight the ethical issues involved and establish concurrent protocols. Following this analysis, the study was evaluated by peer review at the University and judged to be low risk (see Appendix I). Although it was therefore anticipated that there would be no significant ethical threats to the stakeholders involved, the study applied several safeguards to protect their rights and welfare.

First, in respect of individual autonomy and the minimisation of harm, informed and voluntary consent was garnered from the participants and remained an ongoing priority throughout the research process. The informed consent process began during recruitment with a non-pressured process, the supply of a comprehensive information sheet, and the space to ask any questions. The information sheet described the purpose of the study, the expectations of involvement, the benefits and risks of participation, and the intentions after the end of the study (see Appendix B). It continued with the receipt of each participant's written consent (see Appendix C) to voluntarily participate in the study, allowing the participant to ask any questions prior to and at the completion of the interview, as well as affording the participants the opportunities to check their transcripts and to exit the study if needed. During interviews the researcher was attentive for any signs of discomfort and allowed for halting the interview and/or the participant's withdrawal from the research. The study did not engage participants under the age of sixteen, or those whose capacity for informed consent was compromised.

Second, in recognition of privacy and confidentiality, the anonymity of participants was preserved throughout the course of the research. Informant pseudonyms (as introduced in section 3.2.5.5) were utilised during transcription, data analysis and in the researcher's reflexive journal. Moreover, any significant personal and place identifiers were anonymised in the research data. Protective measures were also implemented to secure research data and records, including the use of passwords for digital files and locked storage for written or printed material. Other than the researcher, no other person had access to this information.

Third, several strategies were employed with regard to the minimisation of harm, informed consent, and respect for persons. Given a perceived physical or psychological risk if interviews are conducted in a participant's home, the researcher suggested a public site by default and only allowed for a private location if this was explicitly requested. The researcher also sought to address power asymmetries in the researcher-participant relationship through, for instance, his use of a reflexive journal, the employment of a flexible and open ended data collection method that proffered the participant greater control over disclosure, allowing the participant to choose the interview location, and giving the participant the opportunity to check the accuracy of their interview transcript.

3.4 Issues of Quality and Validity

This section outlines the principles followed to ensure the quality and validity of the interpretations and findings in the study, after first discussing how these were established. Due to space constraints, further details concerning their application is found in Appendix J.

The researcher followed the view of writers like Rolfe (2006) who asserted that a qualitative study should be assessed on its own terms. Quality criteria for naturalistic and interpretivist studies should not conflict with their philosophical presuppositions (Yanow, 2006). Whilst, in this vein, Lincoln and Guba's (1985) seminal contribution was considered, the researcher sought a framework that would better reflect the study's interpretivist paradigm by allowing for a more expansive conception of researcher reflexivity in quality assessment. The researcher turned to a set of four broad and flexible principles developed by Yardley (2000; 2008). Each principle is outlined below.

Yardley's (2000) first principle is sensitivity to context. Accordingly, a good qualitative study would demonstrate contextual sensitivity to, for instance, the theoretical perspectives concerning the research topic, the existing pertinent empirical literature, the socio-cultural setting in which the study is positioned, the interactive relationship between the researcher and participants, the analysis of data, and articulation of findings (Smith et al., 2009; Yardley, 2000).

The second principle is commitment and rigour (Yardley, 2000). Commitment, for Yardley, concerns immersion in the data, the development of requisite competence in the methods utilised, and extensive engagement with the research topic. In a quality IPA study, therefore, commitment would be demonstrated in the extent of attentiveness afforded participants during data collection and careful analysis of each account (Smith et al., 2009). Secondly, rigour refers to the thoroughness of the data collection and analysis (Smith et al., 2009; Yardley, 2000) and can be met through such steps as a implementing a sampling strategy in accordance with the research question, and combining a extensive intuitive investigation of the data with astute theoretical analysis.

Yardley's (2000) third principle is transparency and coherence. The transparency of a study is demonstrated by how clearly and fully its various stages, procedures and any other relevant aspects of the research process are disclosed, detailed, and justified (Smith et al., 2009; Yardley, 2000). For Yardley (2000) it is achieved, for instance, through meticulous description of the data collection process and coding protocols, by including sufficient data excerpts to allow the reader to assess the study's analytic interpretations, and by reflexive disclosure of the researcher's motivations or constraints. Secondly, coherence refers to the degree to which the study presents as a cogent whole. To Yardley (2000), this is both a factor of the quality of the narrative and of the congruency between the various philosophical and practical aspects of the study's design.

The fourth and final principle advanced by Yardley (2000) is impact and importance. In this regard, a study's benchmark of validity is the extent to which its findings offer fresh insights and are practically, socio-culturally, or theoretically useful (Smith et al., 2009; Yardley, 2000). For Yardley, this is assessed in terms of a study's objectives, intended use, and target audience.

Beyond but connected to Yardley's suite of principles, the study also established transferability as an assessment criterion. As the interpretivist equivalent to the conventional concept of empirical generalisability, transferability refers to the extent to which a reader can transfer the findings of a study to another context, and relies upon the provision of sufficient rich, thick description of the context (Creswell, 1998; Lincoln & Guba, 1985). Unlike generalisability, which is applied by the researcher, transferability is applied by the reader (Creswell, 1998). The researcher must provide sufficient detail to facilitate the comparison of contexts and thus determine whether its

findings are transferable. Smith et al. (2009) stated that to facilitate transferability the IPA analyst should "provide a rich, transparent and contextualised analysis of the accounts of the participants" (p. 51).

The strategies that were implemented to meet these principles are detailed in Appendix J.

3.5 Summary

Seeking a broad range of climate change understandings, participants in demographically diverse urban and rural settings were recruited in 2015 by dropping leaflets in household letterboxes then returning to knock on doors and invite the resident to participate in the study. In-depth, semi-structured, one-on-one interviews were conducted by the researcher with each of the six participants, predominantly in their own homes. A flexible interview schedule was used, which comprised a series of open questions and was developed in accord with both the research question and extant research literature. Questions explored the understandings and experiences of climate change but their use was guided by the interests of the participant. Audio-recorded data from the interviews was transcribed verbatim then analysed using IPA. A series of superordinate themes and subthemes emerged from the analytic process, which made sense of the various aspects to the participants' lived experience of climate change. The study was underpinned by an interpretivist epistemology and subject to a range of quality assessments and ethical controls. The study's findings are presented in the following chapter.

4. Findings

4.1 Introduction

This chapter presents the findings gained through the IPA analysis of the participants' understandings of climate change. Pursuant to this approach, the findings are presented as a thematically-organised narrative, which interweaves the words of the participants with the analytic remarks of the researcher. Superordinate themes and accompanying subordinate themes emerged during the analytical process from the experiential material sourced through semi-structured interviews with each participant. These themes are interrelated constructs which apply to each participant yet reveal themselves in idiosyncratic ways. Each captures an aspect of the participant's lived experience of climate change and their sense-making in respect of that experience (Smith & Osborn, 2015). Although superordinate themes are common to all six accounts and nested themes are represented in at least half of the accounts (see Appendix K for a tabular representation), there is convergence and divergence amongst the participant' experiences. Moreover, whilst presented discretely there is a degree of overlap between the themes. This is representative of thematic relationships and the complexity and cohesiveness of participant accounts.

The narrative format presents the participant's own understandings according to the identified themes and the researcher's interpretations of those understandings. The implications of the findings in regard to the existing literature are explored in the following chapter. Reflective of the study's commitments to the assessment criteria of rigour and sensitivity to context (see section 3.4), a considerable quantity of verbatim extracts from participant accounts are used. This gives participants a voice and permits the reader to judge the plausibility of the interpretive remarks. Again, for reasons of

strengthening rigour, there is a balance of extracts from each participant across the narrative. Due to space constraints, however, each participant may not be represented in each theme. Certain conventions are helpful to consider when reading the narrative, for which the reader is directed to Appendix G.

The findings form one possible analytic interpretation of New Zealanders' climate change understandings. Underpinned by an interpretive stance, the aim in IPA is to offer an account which is coherent and plausible rather than epistemologically definitive. The process of IPA analysis (see section 3.2.7) through which these themes arose entails a double hermeneutic whereby the researcher interprets the participant as they interpret their experiences (Smith et al., 2009). The interpretation offered is thus necessarily subjective and partial. Rather than an exhaustive representation of the participants' climate change experiences, the themes were identified for their prevalence in the data, their capacity to illuminate other aspects of the account, the richness of passages pertinent to the theme, and, as an overarching factor, their relevance to the research question and goals (Smith et al., 2009). The participant quotations were selected for their thematic representativeness. In respect of plausibility, therefore, the themes and interpretative commentary should be anchored in the quotations presented here. Nevertheless, it is probable that another researcher, influenced by their own positionality, would have emphasised different aspects of the accounts in different ways.

The findings are organised in the following manner. First, a schematic diagram (Fig 4.1) illustrates the thematic structure. Following an overview of this structure, each superordinate theme and its constituent themes are introduced sequentially and evidenced with verbatim extracts from participant transcripts along with the researcher's

interpretive commentary. Due to space constraints, the following sections present a summary of findings. In the interests of transparency, readers are therefore directed to Appendix L for all representative excerpts for each theme.

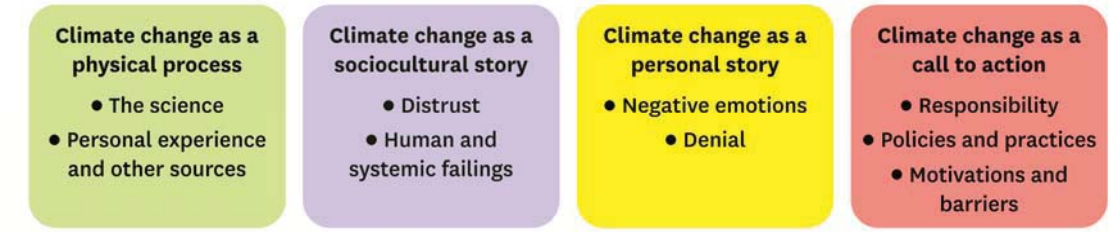

Figure 4.1. Overview of themes and subthemes

4.2 Overview of Superordinate Themes and Subthemes

In a rigorous analytical process of the accounts derived from semi-structured interviews, four superordinate themes were identified, which represent how the participants made sense of climate change. These were:

- Climate change as a physical process
- Climate change as a sociocultural story
- Climate change as a personal story
- Climate change as a call to action

The first superordinate theme, 'Climate change as a physical process', marks the ways in which participants understood the physical aspects of climate change. Nested within this theme are scientific understandings and sources, both in respect of personal experience and other resources. The second theme, 'Climate change as a sociocultural story', captures the macro level experiences and understandings of participants as they pertain to society, culture, and social institutions. Its constituent themes portray how climate change is related to distrust of elites and perceptions of underlying sociocultural

failings and deficiencies in human nature. The third superordinate theme, 'Climate change as a personal story', depicts how participants engage with climate change on an emotional basis and in interaction with other individuals. Divided into two constituent themes, it portrays the negative emotions evoked by climate change and aspects of denial. The fourth theme, 'Climate change as a call to action', centres on interpretations and experiences pertaining to climate change mitigative or adaptive responses. Within this superordinate theme are the participants' understandings of the locus of responsibility for action, accounts of personal current and intended actions, normative views on the actions of other actors, assessments of particular policies, and barriers/motivations to action.

4.3 Superordinate Theme One: Climate Change as a Physical Process

The first major theme marks how the participants understood the materiality of climate change. It is captured in two subordinate themes, which are 'The science' and 'Personal experience and other sources'. Participants depicted their knowledge about the physical aspects to climate change, such as its causes and consequences, and grounded this knowledge in personal experience and various information sources. Each are these emergent subordinate themes are portrayed and considered below.

4.3.1 Subordinate theme one: The science. In this subtheme, 'The science', climate change is engaged with as a scientific issue. It captures participants' understanding of the definition, the reality, the cause, the consequences, and the proximity of climate change. All participants held a conception of the science of climate change and most accepted its actuality. There was significant uncertainty, however, about its cause, its impacts, and the immediacy of those impacts.

Participants mostly defined climate change as sustained changes in global weather patterns of wind, precipitation, and temperature, which are particularly evident in recent times and correlated with human activity. Definitions were also articulated in terms of causes and consequences. As Frances said:

> I understand climate change is significant and [...] long term issues to do with [...] the basic global patterns which are determined, like our wind patterns and precipitation and things, for many hundreds and thousands of years, all that's changing gradually [...]. [Frances]

The extracts below point to how climate change understandings were also conflated or incorporated with other environmental phenomena, particularly pollution. In discussing climate change, participants invoked further phenomena including the depletion of the ozone layer, fracking, global cooling, and general environmental degradation. For instance, Quinn explained:

> I mean climate change is really just, it's pollution, really, is what it is [...] the health of our waterways, [...] I mean if that relates to climate change, I mean that is climate change, that, that's part of it isn't it? [Quinn]

Understandings about the veracity and cause of climate change were universally expressed. Most participants considered climate change was occurring and saw it as a result of human activity. Particular triggers were identified as pollution, human development, fossil fuels, and carbon emissions. For example, Peter said, "I'm pretty sure the blame is from the pollution and human, people are the makers of pollution." Janet said, "The causes of it would be, ehm, so we have fossil fuel use and carbon emissions".

Despite this general identification of anthropogenic causation, however, varying degrees of uncertainty and scepticism were frequently articulated. Peter explained:

> I do believe that Earth have been changing, the climate in, over time by itself .. but not that *much*. Ah, people who believe that are just, I don't know [...] if you can *prove* that the Earth is changing climate 'cos of us. Ah, I believe that it is. I, I cannot prove it. [Peter]

Janet also appeared to hold an understanding of climate change as a contested and balanced argument:

> I'm not really sure exactly what bits of it are to do with us and what bits are to do with natural evolution of the climate anyway, ehm, and that there are two camps, one seems to be very sure that it's human activity and one seems to very sure that it's *not* and, ehm, there's signs to back up both sides, I guess. [Janet]

These extracts illustrate how uncertainty amongst participants was expressed as an amalgam of personal doubt and references to conflicting scientific evidence and theories of long-term climate change. Expressions of certainty about the veracity and cause of climate change were less frequent. Beth emphatically rejected its reality and understood it as a hoax propagated by "the one percent" and facilitated by the media. In these extracts, we see how Beth interpreted climate change as a reflection of natural climate variation and understood scientists as a concurrent victim of the deceit:

> [T]hey try to gag anybody that says, that puts out reports that, you know, the, um, scientists, a lot of scientists now have actually, jumped on to the, you know, realised that they got on the bandwagon too soon and they realised it was a whole lot of claptrap. [...] Let's just go by what the scientists reveal that's actual fact. This is all part of the cycle of the Mother Earth's cycle, you know. [Beth]

Rather than seeking to disparage climate science, then, Beth's understanding was that the unhampered release of scientific evidence would negate the veracity of anthropogenic climate change. In contrast, Frances was equally ardent about its reality, causes, and consequences. She said, "[F]or me I've read enough that I'm convinced it's really bad."

Most participants also articulated their understandings of the potential consequences and proximity of climate change. The majority talked about direct environmental consequences. For instance, Quinn, reflective of her broad understanding of climate change named impacts such as "melting ice-caps", "rising sea levels", "volatile weather patterns", "increase in fires", "species loss", "loss of diversity", "fracking", and damage to "human health" . Like Quinn, a few participants connected environmental aspects with various social, political, and economic impacts. Frances' first characterisation of climate change consequences was atypical in its candidness and apocalyptic expression yet demonstrative amongst the participants of a generally negative understanding. "Oh, it's death", she said, but went on to capture a social justice perspective:

> I'm also really aware of the, the geopolitical, kind of, implications of that and already, you know there's Pacific Islands where the rising sea level, but, but, who is it affecting? It's affecting the poor [...]. [Frances]

When talking about the temporal and spatial proximity of these consequences, participants often appeared to understand them as distant, uncertain, or abstracted. Both aspects of proximity were rendered redundant for Beth through her understanding of climate change as "a manipulation". Nevertheless, all other participants made sense of climate change as remote in space and time in various ways and to varying degrees

despite accepting its veracity. Janet, for example, said, "I think it's my children and their children that it would affect." Frances incorporated a perception of divergence in the scientific community about the timescale of impacts to underpin her uncertainty:

> [F]rom what I understand even scientists can't agree on that and that it's constantly changing and it seems to me just, as a non-scientist observer, that [...] recent knowledge seems to be saying we've actually got a bit less time than we thought we had [...]. [Frances]

In summary, this theme highlighted how participants shared interpretations about the science of climate change in respect of its meaning, veracity, causes, consequences and proximity. While there was a large degree of conflation with other environmental issues, climate change was largely understood as sustained changes in global weather patterns, and as a long-standing phenomenon, which has become evident in recent years. Most participants accepted the veracity of climate change, identified human activities as a cause, and named environmental impacts such as melting polar ice caps and rising sea levels. Expressions of uncertainty were prominent, however, about both the extent to which current climate change was natural or anthropogenic, and the proximity of its consequences.

4.3.2 Subordinate theme two: Personal experience and other sources. The second subordinate theme, 'Personal experience and other sources', marks the ways in which participants used either their own physical experiences of climate related phenomena or other sources of information to make sense of the veracity, cause and consequences of climate change.

Most participants drew on informal experiences to shape their interpretations of the science of climate change. Understandings were informed, in particular, by

perceptions of shifts in temperature and encounters with pollution. For instance, Beth's rejection of climate change was framed by her experiences of local beaches and weather patterns. She said, "Well, I used to look out at the sea all the time and beaches that I'd gone to for years and years, all my life, and think 'I can't see the sea levels going up' [laugh]. They haven't changed." Similarly, she saw that climate change was inconsistent with her experience of weather patterns and a benign understanding of nature:

> [P]ersonally, I didn't think that there was anything going on with climate change because, you know, the Earth is always changing anyway and it's like everything, day and night, you know, everything goes in cycles, summer, autumn, winter, and the Earth's been around a lot longer than, than any of us have that are living on it and it's still here. So, you know, it must be in balance in some way. [...] And in fact, I felt the temperatures were getting cooler. [...] It's gotten cooler. But that is a normal part of the cycle. [Beth]

Eric's understanding of the reality of climate change was informed by perceptions of shifting temperatures over time and by changes in his gardening experiences:

> Go back, I came to New Zealand in 1967. [...] [F]rom then, Septembers have been bloody cold and Mays have been cold. But going back you used to get these nice warm Mays and nice warm Septembers. You, your summers seemed to be longer. Days seemed to be shorter. But June, July and August are not as cold as they used to be. [...] But yeah, that's how I know, by what, what I used to grow in doing my vegetables I knew how the weather had changed [...]. I knew I was going to lose all my blossoms in October 'cos that's when I got all me flowers and the bloody winds come along. [Eric]

Reflective of the conflation in understandings between climate change and other environmental phenomena, some participants used their personal experience of pollution to substantiate their interpretation. Frances talked about the causes of climate change and described a travel experience to buttress her explanation. She said, "I've been to Beijing [..] on the [...] Moon Festival Day where you couldn't see the moon 'cos of the pollution." Similarly, in the extract below we see Quinn, who had claimed, "climate change is really just [...] pollution", relate an experience that confirmed her perception of reality and health impacts of climate change:

> I've been in China and seen the quality of the air and the smog there. [...] I sort of noticed it [...] pretty directly when I was there. [...] [J]ust the feeling that I had from coming from this environment going, going over there and actually not been that well myself at the time, it really was something that I, yeah, it's not very nice. [Quinn]

Beyond these personal experiences, however, participants also expressed a range of sources for their physical understandings of climate change. The ways in which these sources were discussed highlighted the influence of social relations, weather events, the media, and existing beliefs and values on those understandings. Most identified common broadcast, digital and print media channels although a range of other written, visual and interpersonal sources were acknowledged. Appearing to illustrate a connection between extreme weather events and climate change understandings, Eric revealed hearing about Hurricane Katrina's impact on New Orleans as a source of his knowledge ("I heard about New Orleans and, and that was *massive"*). Quinn said she picked up "bits and pieces" through "listen[ing] to the radio a lot" but she also drew on recommendations from social contacts:

> It's either, like, word of mouth and then I'll find, like, the source, like, I- I'll find that specific documentary that's been recommended or [...] I'll see it on social media or something and then, like, that ... particular site that I source that documentary from will then also give me, like, access to other documentaries. [Quinn]

The above extract points to the capacity for climate change understandings to be shaped and confirmed by homophilous social relations and information echo chambers. For Quinn, two primary sources of climate change knowledge were the referrals to documentaries from individuals in her offline and online social network and the restricted trail of additional material generated through these referrals.

Peter's primary source of knowledge was "mainly my school", "thirteen years ago". However, the comments below demonstrate how media consumption moulds perceptions of the reality of climate change and the proximity of its impacts:

> Well it's I, I having hearing, as I told you, like, thirteen years ago, hearing about this for the first time so, yeah, it's happening now. But since we don't see the problems on the TV or, or then come on websites, [...] it's probably not that big yet. [Peter]

Moreover, the accounts of many participants indicated how climate change knowledge was filtered through existing cognitive schemata. Beth's early understanding of the physical aspects to climate change was developed through the film *An Inconvenient Truth* but transformed through reading the work of the conspiracy writer David Icke. To Beth, the film's messaging clashed with her current conceptions and drove her to seek out more complimentary sources:

> *An Inconvenient Truth*, yeah. 'Cos I saw that, and that was, like, oh my god, fear of, put the fear of god in me, you know. And that, that sort of started it. [...] [I]t just didn't add up to me, so that's why I started looking at different theories and things. And, in this book, which is called *Perception Deception* by David Icke, he's got this chapter here called *Climate Claptrap* and, basically what he is saying is that, it is a lot of garbage. [Beth]

To summarise, participants used both personal experience and a broad range of other sources to inform their understandings of the scientific dimensions of climate change. Lay experiences of pollution and changes in weather patterns frequently underpinned their interpretations. Mainstream media were also identified as common sources. The descriptions by participants also pointed, however, to the ways in which this information is filtered through existing cognitive schema and shaped by media consumption and trusted social relations.

4.4 Superordinate Theme Two: Climate Change as a Sociocultural Story

The second major theme captures the ways in which all of the participants understood climate change as a social narrative. It is represented through two subordinate themes, which are 'You can't trust them' and 'Human and systemic failings'. Climate change was depicted by participants as a issue of distrust of elites and as symptomatic of dysfunctionality or deficiencies both in sociocultural systems and aspects of human nature. These emergent subthemes are described and examined below.

4.4.1 Subordinate theme one: You can't trust them. The first subtheme, 'You can't trust them', depicts the participants' understanding that climate change is entwined with forms of concealment or manipulation by elites. The majority expressed a lack of trust in political, media or business leaders in respect of the physical reality of climate

change, the open and unbiased supply of climate change information, or the disclosure of mitigative technologies.

Beth's terse comments capture the essence of the theme in her distrust of the messengers of climate change, the solution (referenced here as a carbon tax), and the message itself. Through her candid and fervent analysis of the speciousness of climate change, we see how it is understood as symptomatic of a broader manipulation by global elites:

> Why is this, why are we suddenly being taxed? [...] Because it all comes down to money. [...] [P]art of their whole process of these people, is that they create a problem, then they come up with the solution, right, and it's all for their own agenda at the end of the day. [Beth]
>
> Whose agenda? [Interviewer]
>
> Well, it's the one percent. It's the Rothschilds, the Rockefellers, [...] all these one percent that have got all the wealth. [...] The more the middle class are taxed that – i.e. the more money you drag out of them and turn them into slaves, the more taxes you can create, the more money the one percent make. [...] The important thing is that the truth isn't being reported. [...] I'm just gobsmacked at the dishonesty. [...] How they, how the power that these people have to gag the media, the scientists first of all, manipulate the media. [Beth]

These extracts draw our attention to the issue of extant and widespread distrust and cynicism towards elites, through which climate change understandings are filtered. Evidently, Beth described her understanding of climate change as a machination, which is perpetrated on society at large by affluent business dynasties in order to expand their

control and wealth at the expense of middle classes, a group in which she implicitly places herself.

However, distrust was also represented through commonly held perceptions of the stifling of mitigating technologies by political and business elites. Beth's interpretation of suppression appeared to serve a dual purpose in cementing both the falsity of climate change and the power of the elites she saw as responsible for its dissemination. She said, "Well, apparently he [Nikola Tesla] discovered [...] how to create energy, free energy. But all that was suppressed. [...] You know, if they're so concerned about climate change why don't they bring on the free technologies". Similarly, for other participants, notions of dependence and powerlessness were enmeshed with distrust of elites. For Quinn and Eric, "massive interests" or "multinationals" are viewed as powerful 'others' in control of any mitigative action:

> I do wonder if there have been certain technologies that would advance our species, our civilisation, that have been suppressed because we've got pretty big interests. Um, I kinda feel like behind the scenes politics is like a game of, like, it's a crony game, like ... money speaks. [...] Like if the government isn't in our interest and they're not releasing ... I mean the greater government, the world government, is not releasing things that could be in our interests then of course we're in the dark and we don't [...] know. [Quinn]
>
> [A]s for global warming, yes, it could be our fossil fuels. We don't need to dig [...] coal anymore, we don't really need to go after oil anymore. We can [...] run all our vehicles. The multinationals will not give away their, their oil. Not until it actually runs out. [...] I'm not a fan of the multinationals, the way they-. They,

> they, can actually stop, we could go, we can use the ocean to make power [...] So we don't need fossil fuels. [Eric]

Similarly, there was a commonly described distrust in the motives of political leaders. Participants saw politicians as self-serving, reactive rather than proactive, and lacking in long-term vision. Quinn, for instance, said, "I'm not sure if it's [...] slanted this way in the media but it kind of feels like it's government against [laugh] [...] the local people." Peter was definitive in his characterisation: "It doesn't matter what government I think every government it's is just bad and I hate politicians". A perception of political expediency and opportunism concerning climate change was common. Eric and Janet said:

> They're only interested in themselves. [...] Yeah, make a difference [to climate change]. We can by cutting [...] our fossil fuels. [...] Do I trust the governments? No. If they were concerned, they would say OK, bugger the cost, we'll just do it. [Eric]
>
> I think they talk about it when it becomes a wave of public concern that then they feel they should do something [taps table] about because it'll effect their next course of, you know, their ability to be in power. [Janet]

But a lack of trust was also expressed by most participants concerning a perceived bias behind the broadcasting of climate change information. Beth argued, "The media gags it. They gag, they gag the [scientific] reports, they, and they manipulate what they tell you." Likewise, for Quinn, given mainstream New Zealand media is "run by [...] two [...] parent companies" the trustworthiness of information is "fifty-fifty". She said, "What's the scoop? [...] That *is* what journalism is. It's not

necessarily presenting the facts, it's presenting a viewpoint *on,* of the facts." A mistrust in the media as a source of climate change information was shared by others:

> [F]rom my scientific background, I would trust something that's been peer reviewed. Ehm, and that has [...] no bias about it. [...] I think that's why I don't trust the news, like it's not necessarily non-biased. [..] [O]r if there's been a generation of discussion with lots of people putting into it. Just, like, a normal broad sheet newspaper I probably wouldn't trust. [Janet]
>
> I don't believe them [the media]. [...] I choose to believe in what I, I what I investigate on comes from lots of sources. [Peter]

These extracts highlight the extent to which climate change understandings are rendered uncertain through distrust of corporate media control, a perception that opinion and fact are blurred in reporting, or simply an intrinsic suspicion of mainstream media.

In summary, this theme illustrated the ways in which extant distrust of elite figures is entwined with understandings of climate change. Participants expressed misgivings about the motives of political leaders, they were suspicious that multinationals or governments were suppressing mitigative technologies, and they had little confidence in the media's capacity to provide unbiased climate change information. Bolstered by beliefs about political economic corruption and opportunism, a powerlessness about climate change was evident. Climate change action is seen to be in the hands of self-serving elite groups.

4.4.2 Subordinate theme two: Human and systemic failings. This subtheme, 'Human and systemic failings', denotes the participants' interpretations of climate change as an indication of systemic shortcomings operating in tandem with collective moral or psychological weaknesses. Participants understood climate change as reflective

of a disconnection with nature, as a symptom of human ignorance, or as a marker of Western entitlement and consumerism. For many participants, these understandings were interwoven with religious and spiritual traditions.

A dominant interpretation amongst participants was that climate change was indicative of humanity's disconnection with our human essence and the natural world, as well as an inability to live within nature's physical limits. In describing these interpretations, participants often invoked spiritualist understandings, in particular New Age and Earth-religion beliefs. For example, Beth's understanding of climate change as a manipulation operated in tandem with a love for a personified Earth and a perception that pollution was reflective of human conceit and unconsciousness:

> My personal take is I love Mother Earth. I think she's the healer of all. And I think that [...] we need to look after the Earth, that has been damaged by pollution and just [...] ignorance and arrogance of the human race, particularly of late. And that the more people that get in touch with the Earth [...] the more healing, you know, it will be. [Beth]

This extract illustrates that Beth's denial of climate change did not equate with a disregard for nature nor a denial of pollution and its locus in human failings. Eric invoked a similar Gaian framework along with a neo-Malthusian understanding:

> I think our population is controlled by this planet. [...] I think, yeah, well you start cutting down trees, you start polluting the oceans, [...] you're killing the planet and if you're killing the planet and she will, and she's a living being, she's got to do something to protect herself. [...] We're a cancer. And I think man is a cancer on this planet. [...] The animals only breed when the food's there. They breed to their conditions. Man doesn't. [Eric]

Quinn saw this disconnection as a corollary of a passive consumer society separated from nature and our human essence and purpose. She said, "I feel like there's a greater source of, like, intuitive wisdom there that we've probably lost because we're letting machines and things do the thinking for us [...]." And later:

> And it's related to the modern lifestyle [...] and that disconnection, like, you know, the rise in cancer and [...] every day I hear about someone new with cancer and I just wonder how we all got so out of balance. [...] Is it about rediscovering [...] the very essence of who we are, what we are. [Quinn]

Janet said, "[W]hen we grew up we didn't have computers and didn't sit in front of the TV and didn't, we were out and about playing outside all the time." But she also framed this disconnection in a more material sense, and, as a farm veterinarian, summoned a rural-urban understanding:

> I think we're working in a rural environment and a lot of my friends are farmers and [...] probably feel more connected to the environment and to [...] the change in weather and the change of environment effects life day-to-day. [F]riends I've got who live in the city are only affected by the weather if it changes their weekend plans. [...] Yeah, it matters more here because you, you're in it. You're in it all day, every day, and if you spoil a paddock, you can't use it again. So it does affect your business and your life [...]. [Janet]

Beyond positioning this separation from the natural world at the root of climate change, participants also understood it as symptomatic of social and political economic factors. Beth, for instance, wove in an understanding of human failure in respect of people's inability to "wake up" from their "conditioning" to what she saw as the falsity of climate change:

> Because, you actually have to question everything that you've been conditioned. [...] It basically means that [...] you've been wrong all your life. So that's a hard thing for people to cope with, the ego, you know. [I]t comes at a certain disloyalty to society and to everything, you know, to your parents, your teachers [...] I went through [...] anger, you know, at every, everyone, everything, like 'aw my god, you idiots, how did you let this happen?' [Beth]

But for others, understandings of climate change were entwined with a broad systemic critique. Participants associated climate change with other social pathologies such as social inequality, a fragmentation of communities, and a generalised spiritual disharmony and saw them as reflective of consumerism, corporatism, a growth of individualism, and failings in human foresight. For instance, Quinn said, "[W]hat's the end goal for us? You know, is it [...] beautiful homes with more stuff, is it health, is it [...] flying up in space? Are all of those things accessible if instead of going out, we go inwards?". As we see in the collection of extracts below, Frances offered a pithy diagnosis of climate change, which linked sociocultural factors with egoistic values, wilful denial and improvidence:

> I see the change as part of the [...] general environmental damage that we're doing to our globe through our lifestyles and our dumb belief that we can do more and more and more consumption, um, and that that's not going to have any implications in terms of the globe, the planet. [...] I feel very much, very strongly that the Western countries, um, have got this entitleitis thing about their lifestyle and you know 'if I can afford it, it's mine'. [...] We're asking them to think about people, the impact of their lifestyles on other people in other countries in fifty years time and I'm really pessimistic about the ability of people

to do that. [...] [I]t's the little people in the world who already are having a [...] bad deal. They're the first ones that will be affected. And do we care? No. [...] [I]t's just the vested interests that are driving this denial of it is sickening, and that's all to do with [...] the power of the, these multinationals and those global, you know, as well. [...] [W]e've lost our sense of community [...] So, while we all now live in our little bubbles [...] it's hard to, to get people out of their bubble and to help them to see the world differently. [Frances]

In summary, this theme depicted how climate change is symptomatic of underlying problems. Climate change was perceived by participants to reflect a broad dysfunctionality encompassing aspects of psychological and social conduct, culture, and political economy. There were a number of different articulations of this theme, however. Emblematic of the social complexity of the phenomenon, participants reported in various amalgamations that climate change was enmeshed with consumer lifestyles, inequality, population growth, and spreading commodification, that it was reflective of a broader social and environmental disconnection, that it was a scam aimed at further concentration of wealth, or that it was due to human hubris and cognitive and moral failings.

4.5 Superordinate Theme Three: Climate change as a Personal Story

The third major theme captures how the participants understood climate change at the level of the self and through social interaction with other individuals and groups. In particular, it marks the ways in which the participants respond emotionally to climate change and how these responses are connected to action or inaction. Participants expressed a range of negative emotions in their climate change understandings, along

with various forms of denial. Nested within this theme are two subordinate themes, which are 'Negative emotions' and 'Denial'. These are depicted and explored below.

4.5.1 Subordinate theme one: Negative emotions. This subtheme, 'Negative emotions', conveys the ways in which participants articulated various unpleasant emotions in their understandings of climate change. Expressed through feelings such as worry, helplessness, guilt and sadness, notions of passivity and being out of control were common among participants.

Feelings of helplessness, hopelessness and fear about climate change was frequently described. Thinking about the scale of the problem could be overwhelming for participants and evoke a sense of powerlessness. Frances, for instance, spoke of her pessimism about the capacity of humans to comprehend the seriousness of climate change and act accordingly. She said, "[D]eep down if I was a [...] gambling person I would not gamble on the, the likelihood that the human race will get this before it's too late". For Frances, this interpretation was grounded in her personal experiences of human nature both at home and in her teaching role. As depicted in the extracts below, she expressed fear and hopelessness at the improbability of people taking the required climate change action:

> [I]t's just a case of how long, and I think that I feel, I want to be optimistic but I actually, a lot of me is really pessimistic because, um, like I've worked with people all my life as a teacher [...]. [...] I have two Chinese home-stays which cause me much, they're lovely girls, they're intelligent girls both of them but boy when I look at their attitude to rubbish, I look at all the food they buy that they don't even eat, things like that [...], that frightens me because they're a microcosm of, you know they represent a whole generation of Chinese who

> don't get it. [...] I mean teenagers aren't at their best ages of development as human beings, but there's just laziness, for even picking up rubbish and if you can't pick up your own rubbish [laugh] it's a bit scary in terms of all the other things we're asking people to do changing their lifestyles. [Frances]

Other participants echoed this hopelessness. Janet stated, "[N]obody greatly knows what to do about it or is taking control of it, I don't think. I think we're not acting fast enough. It's already a snowball that's past us, I feel". To Janet, then, there was a fatalistic inevitability about climate change. She said, " What can we do, other than damage control basically? That's how it feels, yeah". Similarly, Beth articulated a period of hopelessness prior to making sense of climate change as a hoax. She said, "I know how I felt before I kind of faced all that stuff, you know, discovered it and looked into it [...] I was *depressed*. *Depressed*, *fearful*, and a [...] sense of impending doom and *hopelessness*, you know". Eric's concern was interwoven with affection for the ocean. He said, "Do you know what frightens me the most is that, [...] is our polar ice shrinking 'cos of manmade or is it natural? [T]hat's the only thing that does bother me." [...] "It does worry me".

Climate change understandings also elicited feelings of guilt and existential introspection. Participants considered the environmental impact of their lifestyles and expressed remorse and self-doubt. For Quinn, engaging with her choices as a consumer and their cost to the environment caused her to question humanity's purpose. She said:

> [W]here are [...] we going? What [...] do we want? Like, I have *so* many clothes but I feel like, you know, they *date*, they grow old, they [laugh], they have their use-by and so it's like, coming out of that consciousness of having to ... being a consumer, you know. [...] I wonder if, like, we're causing this much damage,

with the perception we're causing damage ... I mean it's not, it's not *harmonious*, it's not a harmonious way to be living ... so what is the purpose of man? [laugh] Are we meant to be here living a non-harmonious [laugh] or learning to be harmonious. You know, what is the *point*? [Quinn]

This guilt was repeated by Janet in reference to future generations:

Aw, not a good feeling. Worry, it's a worry and it's a [...] heavy sort of guilt feeling like 'aww', you know, we're damaging our planet and, I've always had a love for nature and animals and I want my children to be able to see that and do that and have that. So, the thought that their children's children potentially won't have that diversity is ... pretty negative feeling, yeah. [I]t doesn't feel hopeful. It doesn't feel like we've got much that we can do, other than ... know that for yourself you're doing the right things by climate change. [Janet]

And later:

I do think about it a lot and I do feel bad about it and I think it's easy to feel guilty and take it on yourself and think aw my god, I'm a human and therefore I am to blame for part of this [...]. [Janet]

Forceful expressions of anger and frustration were also common. For Francis, who saw climate change as a matter of global inequality, these feelings were particularly vehement:

And what really bugs the hell out of me, too, is that it's haves and have-nots even more. It's the have-nots that will be first affected [...] So it does make me feel very angry. [...] So they'll [the wealthy] be grabbing all the best places to live, they'll be grabbing the, the resources, they'll be grabbing the fish in the sea, the, the plants, all that stuff. [...] As I've said before, it's the little people of the

world who will be, [...] I use the word extermination actually because I think it's as sick as that. Um, the greed, and the, the self-centredness, and the attitude of, and just the complete lack of humanity. [Frances]

Beth's feelings of anger were framed by her negation of the veracity of climate change. Beth articulated her experience from first engaging with climate change during the 2003 proposal of a controversial New Zealand agricultural emissions tax ("fart tax"). She said, "I thought the most ridiculous thing was the, the fart tax or something. I thought, are they joking? You know? Are we a bunch of two years old here?". Beth's framing evoked anger at those she saw as creating and sustaining a myth: "I went through anger, you know, at every, everyone, everything, like 'aw my god, you idiots, how did you let this happen?', you know." [...] "I'm just gobsmacked at the dishonesty."

To summarise, this theme depicted how climate change understandings evoke negative and unpleasant emotions. For most participants, engaging with the scale of climate change as a global problem raised feelings such as hopelessness, fear, guilt, and anger. For those that accepted the veracity of climate change, these feelings were often connected to a sense of powerlessness in respect of meaningful action.

4.5.2 Subordinate theme two: Denial. This theme marks the ways in which all participants articulated various forms of denial in their understandings of climate change. Beyond the literal denial of climate change articulated by one participant, more subtle forms allowed participants to square their acceptance of the veracity of climate change whilst maintaining their current behaviours and attitudes.

All participants expressed forms of denial in their interpretations of climate change. Beth's literal rejection was the most emphatic. Throughout her account, Beth described climate change as "claptrap", "a manipulation", and "a lot of rubbish". The

extract below captures the essence of her understanding of climate change as a concealed deception perpetuated by global elites:

> [I]t's [climate change] just another way of [...] stealing the world, and, and how it all, why climate change is important to them. [...] [Y]ou can see how it all fits in. The important thing is that the truth isn't being reported. [Beth]

However, many more subtle forms of denial were articulated by the other participants, who nevertheless interpreted climate change as a reality. These were often intertwined both with each other and with feelings of apathy and perceptions of low self-efficacy concerning effective climate change action. For instance, participants denied climate change through the rationalisation of current behaviours and attitudes. These were explained in respect of competing priorities, through forms of cognitive distancing, or through wishful thinking including an optimistic view of the potential of mitigative or adaptive technology. As seen in the extracts below, Janet spoke of the tension caused by competing priorities and how this enabled climate action to be ignored or marginalised:

> I've always had a pretty overpowering want to protect nature [...]. I guess that's been strained by having children because there are certain things that you unavoidably do by [laugh] having children like generating more waste, having more clothes to wash, more dishes to wash, things to buy and places to be and all of that. [...] [I]t's very easy to not have to think about it. That's part of the battle I suppose." [...] I guess the world we live is so fast moving and you're expected to be all of these things all of the time that climate change and your effect on nature can be put down the list of priorities very easily. And you can

think oh I've got so much other stuff to do I don't have time for that, or the money for that, or the whatever it is. [Janet]

For Janet, there is a "day to day" dual reality of the significance of climate change as well as its active minimisation. Similar justifications were made by other participants. Frances defended her travel by referring to an airline's action on cutting emissions: "I do travel overseas a little bit like once every two years, I'm also aware that that's not ideal either. Um, although I know Air New Zealand is working to try and cut that back [...]". Quinn articulated a guilt-tinged tension concerning the use of public transport and her desires both to be "harmonious with our natural surroundings" and to "look to nature for wellbeing, and for healing, and nurturing". She said: "I rely on my car. [...] I need it with my commuting so, there you go [laugh]." [...] "I won't take the train. [...] Because I'm a busy girl and I want my own timeframe. And I don't have time to go and, sorry."

The cognitive distancing of climate change was also common. Frances, for example, expressed a desire to protect herself from the negative feelings associated with the consequences or "science" of climate change: "I don't go there too much because I find that really frightening and [...] I think it's counterproductive, for me anyway, to actually get too much into the science of it. I mean there are people who are, are doing that". Reducing the emotional impact of climate change through temporal distance and humour, Janet said: "I don't know that it would necessarily affect me, because by the time things start [laugh] falling to bits I'll be old and senile [laugh] and not particularly bothered or aware of it hopefully." As we see in the extracts below, Peter distanced climate change in reference to his self-described lack of knowledge about the issue, and a lack of belief in his own efficacy:

> I think this [climate change] is happening. But since I don't know how bad it is, I don't care. Because I think Earth have been changing its climate, like, lots of times through the history. Right now, probably we are doing a very good job [laugh] doing this climate change but, um, it's not like I get the problem so, yeah. That's why, I don't care. [Peter]

And later, he expanded these feelings of apathy and rationalised his unwillingness to "be part of the solution":

> Oh, completely ... ah, not indifferent, but close to that. Because I know that there is an issue with that but ... probably it's one of this big things that I cannot change like being vegetarian – that, I know it's a problem, I want to not eat meat but it's really tasty and I enjoy it a lot. [...] So it's not actually a thing that I can change by myself. [...] I know I could be part of the solution but I choose not to because it's a little harder to be part of the solution than be part of the problem. [...] Like, it's too hard. I'm one person. My changes won't affect that much. Ah, probably, I could do more. Yeah, you can always do more but I'm worry about other stuff, like ... myself [laugh]. [Peter]

Expressions of wishing thinking concerning the potential of technology were also evident. For Eric, technological optimism operated together with blame shifting: "[W]e don't really need to go after oil anymore. We can, we can run all our vehicles. The multinationals will not give away their, their oil." As a software developer, Peter believed in the potential of artificial intelligence: "[F]rom here on four years for, say some date, ah, we will have artificial intelligence and that thing will worry about anything of humanity's problem like global warming [...]." He also said:

> Oh, ah, the thing is, if the Earth is too hot to grow some seeds, ah, it's not like we are in three centuries ago. [...] We will modify the place to be able to, like, Monsanto, they make pesticides that are probably killing our pests but besides that they are, they are making plants that are stronger against lots of things. Ah, so yeah, they probably can come out with plants that are stronger against heat. The same plants. So that's why I'm not caring that much about it because I believe a lot in technology. [Peter]

Most participants also described a socialised denial, in which conversations about climate change were rare and actively avoided. Describing how often he had discussed climate change, Peter said, "Not, not more than a couple of times in my life." Janet stated, "I don't think I've ever talked to a farmer about climate change". Beth described finding her own social wall of silence in seeking to "wake up" her friends to the falsity of climate change as she saw it: "Well, most people [...], they sort of want to know but then you get so far into it and they 'oh, that's enough, I don't want to hear any more', you know, 'I've got enough problems of my own thank you very much'." Similarly, Quinn described the silence in respect of her reluctance to encounter divergent worldviews:

> I'm a little bit reluctant to talk about it at the moment unless it's with, like, my family. [...] 'Cos I [...] have the perception that there's some of my friends who [...] have other sort of concerns and, like, motives and it's probably not doesn't fit in their, with their world picture. [Quinn]

In summary, this theme captured how participants expressed apathy and denial through their interpretations of climate change. Literal rejection was unusual. More common forms of denial, however, existed alongside an acceptance of the veracity of

climate change and included blame shifting, various types of rationalisation including technological optimism, as well as a socialised avoidance of the issue. Like the literal denial, these more indirect forms allowed participants to de-problematise climate change to varying degrees and maintain their extant behaviours and attitudes towards the phenomena.

4.6 Superordinate Theme Four: Climate change as a Call to Action

The fourth major theme marks the participants understandings and experience related to climate change mitigative or adaptive action. It is represented in three subordinate themes, which are 'Responsibility', 'Policies and practices' and 'Barriers and motivations'. Participants talked about their understandings about the locus of responsibility for climate change action, gave their accounts of both their own current and intended actions as well as normative views on the actions of other actors, and offered assessments of specific policies and practices. Each of the emergent subthemes are described and examined below.

4.6.1 Subordinate theme one: Responsibility. The subtheme, 'Responsibility', depicts how participants understood accountability for climate change action. Encapsulated in the theme are interpretations of the role of public and private sectors in adaptive and mitigating action.

Most participants considered that government should be the prime mover on climate change. Framed by her interpretation of the phenomenon as a hoax, Beth demanded that government "should be telling the truth. [...] They should drop this bullshit. They should put, let the scientists give all the facts and data". Grounded in negative assessments of the capability of private sector actors to make the required shifts in behaviour, other participants expressed a view that government should act for

the betterment of society through regulation, subsidies, education, and market-based policies. Eric, for instance, drew on his understanding of the cause of climate change ("It is fossil fuels, all the cars we've got on the road") to call on the government to legislate against fossil fuelled vehicles and subsidise the conversion of propulsion systems:

> If we stopped burning fuels, if we started going on everything, every vehicle and this is where the government, that could work, but the government's got to pay for this bloody change over. They'll allow no petrol vehicles in to the country. Diesel or petrol. Just, and subdivise [subsidise] the changeover too. [...] It's just our governments have got to take this lead, and say OK, we'll, we'll put the cost up. [Eric]

Referring to his previous comments about a raceway meet that he had attended, Eric articulated doubt about the capacity of individuals to take the lead: "There are, like I told you that man did his own car round and he and he won, yeah. There are a lot of petrol heads. Unfortunately, there are a lot of petrol heads."

Frances used her critique of human nature, the "human resistance to giving up comforts", to similarly call the government to account:

> [W]hen it comes to the crunch they [the public] don't actually want to change and that's why I think governments have to absolutely to take the rule with, you know, extra taxes and things so that the real cost of production of things is reflected in the cost people pay. [...] [T]he government has to legislate in people's best interests. [Frances]

Framed by a lack of trust in government ("I think every government [...] is just bad"), Peter nevertheless saw a role for government in educating the populace and in

industrial policy but rejected the likelihood of business acting independently of regulation. He said:

> Government should maybe inform the people [...]. [...] So the government maybe can add some rules for the industries, the big ones [...]. [...] I mean government is the one who have to care about that. Businesses just want to be profiting for itself. They don't care about anything else. [...] [T]hey won't do anything if the government doesn't put a rule on it. [Peter]

Janet, however, envisaged an integrated approach with communities as the key players, government as facilitators, and the adoption of industry-specific policy:

> If there are industries who directly have a big impact on environment change or, you know, degradation to the environment then they need to have their own policies which I think largely they do. [...] But in terms of public change I think it has to be grassroots. Small community. [...] I think government's role would be to have people who can, [...] people in communities to become leaders or at least show initiative and, and start generate that change. [...] I don't think any broad sweeping political anything's going to work [...]. [Janet]

In this subtheme we've seen the participants' normative understandings of responsibility for climate change action. In this respect, the lead actor is largely seen to be government. The dominant view is that government should legislate in the interests of wider society through a range of market and non-market tools.

4.6.2 Subordinate theme two: Policies and practices. The subtheme, 'Policies and practices', captures the participants' understandings and experiences of tangible and potential climate related policies and practices, both in the private and public spheres. Participants expressed their own current and intended actions, their normative

understandings of the apposite tasks of private and public actors, and their interpretations of specific climate change policies.

Participants talked about their present and future actions in respect of climate change. Beth's literal denial of the phenomenon saw her position her actions including "composting" and "recyc[ling]" in the context of "looking after the Earth". But she also claimed an advocacy role in encouraging others to "wake up" to the speciousness of climate change. Those participants who accepted its veracity identified similar actions to Beth, and were chiefly centred on energy saving, waste reduction, self-sufficiency, and simplicity. Peter sought to "turn out the lights" and avoid "taking showers longer than need[ed]". Janet said she "keep[s] waste to a minimum", "thinks about water usage", "grows a lot of her own vegetables", and relies on "my own resources". Quinn said, " I'm buying less. And I think differently about what I buy". Frances described a wide range of actions from "turning off heaters" to being "politically involved" to making "financial commitment[s]". In particular, she emphasised her choices in living a simple and "counter-cultural" lifestyle: "OK, so a simple lifestyle for me is trying to live counter-culturally in terms of stuff [...] So I buy second-hand whenever possible. [...] I get to know my neighbours. [...] I do stuff myself."

Moreover, participants articulated normative understandings of the proper climate change actions of other groups and individuals in both the public and private spheres. The dominant focus, however, was on the political domain. Beth called on the government to "be honest" and "let the scientists give all the facts and data". Peter understood the priority for government as education and said "every solution comes with education". In respect of societal change, Janet talked about needing to "inspire", "rather than just taxing people" and asserted that government should act as a facilitator

of customised community actions, including the development of a sharing economy. She said, "government's role would be to have [...] people in communities to become leaders or at least show initiative and start [to] generate that change." Other participants offered less concrete proposals that reflected common understandings of climate change as a symptom of human and systemic failings. Quinn said, "[W]hat we need now is a conscious rebalancing" in humanity's relationship with nature. Similarly, Frances said, "[W]e actually need another hippy movement to [...] clear out all the technology, the crap, our brains and everything, to, to clear out [...] that entitleitis thing."

Participants also expressed their views on named climate change policies. There was unanimous support for government funding of energy efficient buildings. Beth, for instance, said, "That's a good idea." Likewise, there was a common endorsement of the subsidising of solar panels by government. Eric said, "[T]he more we use our natural resources rather than bloody fossil fuels, the better it is, *yes*". There was also broad support for government funding into renewable energy research and development. Frances stated, "Yep, yep. Ban the coal, yep." However, Quinn qualified her approval saying, "Depends how competitive we can be". On fuel economy standards for motor vehicles, opinions were split. Janet called the policy a "very good idea" but Peter saw vehicles as a fashion item and argued that change should be addressed from this perspective saying, "[F]ashion you have to treat it in other ways. Not like you will be a better person if you drive *this* car instead of *this* car but nobody will listen to you because this is the fashion car". Views were similarly divided on taxing GHG emissions. Frances said, "[A]s an economist it's a no brainer. We've got the models to show what social good looks like, in terms of adding tax and adding subsidies, how they help society [...]." Quinn wavered, however, saying, "I just feel like everyone's arguing

[...] because it brings money into it and [...] it's just like another tax, you know." This division was echoed in respect of the regulation of carbon dioxide as a pollutant. Beth exclaimed, "Well, that's just not true is it! [...] It's like saying we humans create the pollution because we're breathing it out aren't we". Quinn gave qualified support: "I think it'd be huge. But if depends on what action is been done with other pollutants [...]. You know, if that has been, worthwhile, or not".

In summary, this subtheme marked the participants' understandings of climate related policies and practices in respect of their actions, their normative views on the proper steps of other actors, and their interpretations of specified climate change policies. Personal actions were undertaken in varying degrees but focused on energy efficiency, waste reduction, and changes in consumption. Participants largely focused on government action such as education and the facilitation of community-led initiatives, but also advocated for valued-based cultural shifts. Moreover, there was broad support for named policies such as subsidising solar panels but the understandings of most policies illustrated divided approval.

4.6.3 Subordinate theme three: Barriers and motivations. The subtheme, 'Barriers and motivations', depicts the understandings of the obstacles and drivers behind climate change action. Participants articulated a range of internal and external factors encompassing psycho-cognitive, social, and political dimensions.

All participants expressed or demonstrated a range of internal or psychological/cognitive barriers to action. For instance, many expressed climate change as a distant and uncertain problem, thus minimising the need for direct action. Janet thought that "it's my children and their children that it would affect. I don't know that it would necessarily affect me [...]". For Peter, "it's probably not that big yet", and for Eric

"it's coming". Some participants also articulated a low sense of self-efficacy. Janet concluded, "I'm not really going to affect any change anyway" and Peter stated, "I'm one *person*. My changes won't affect that much." Hampering direct action, participants also expressed faith in technological fixes and often saw them as concealed by powerful groups. Peter said, "I believe that we have technology enough to make us secure". For Beth, the "free energy is out there" but "was suppressed". An additional apparent barrier concerned the adoption of tokenistic behaviour. Describing the climate change action she was taking, Quinn said: "I'll make juices in the morning but then I go and put all of my scraps like I'll spread it out. So [...] it's little changes but gearing towards [laugh] like it being a full scale kind of, you know". Peter articulated another barrier in regard to a lack of knowledge: "If people know about what the climate change will do to them or their child[ren], probably they will change their ways to live but they have to *believe* first that this is actually happening."

Participants also articulated political barriers. A detachment from or distrust of political actors and institutions was commonly expressed, pointing to potential disengagement from political climate change action. Janet stated, "I don't really listen to politicians much [laugh]. Not particularly, it's not my kettle of fish." Yet, similarly widespread amongst participants was a projection of responsibility to government and climate experts, with an inherent potential of distancing themselves from the need for action. To Eric, "[...] governments have got to take this lead". For Peter: "They have the power, and the power to do anything with the people. So, yeah, they should be able to *make* people, ah, not contaminate that much". A related and further evident barrier was the transfer of responsibility for remedial response to other political actors. Frances said, "[Y]ou know there's Pacific Islands where the rising sea level, but, but, who is it

affecting? It's affecting the poor and so, I just, um, already, um, I see wealthy nations, like the US of A [motions finger down throat], vomit, vomit, [laugh] [...] they are so immoral and have been for years [...]." This barrier was related to expressions of national identity as signified in a comment from Beth concerning one of the visual prompts, in which New Zealand's climate change commitment was questioned (see prompt A in Appendix E): "Who says that? You know, I think New Zealand tries really hard. It's almost like slur on New Zealand 'aw, you're not doing enough' [scolding tone]."

Social barriers were also evident. For instance, Frances pointed to the in-group bias that operates through homophilous groups and its potential perpetuation of inaction. She said, "[...] [F]or all of us, we only ever mix with people who are like us, it just reinforces our worldviews and that's a real concern [...]". Quinn referenced the interpersonal and intergenerational challenges in enacting change when living with people with divergent habits and priorities: "[T]he two people that I live with are kinda set in their ways [...] and that's something that's now coming through with me, I'm wanting to make changes". Participants also frequently articulated their embeddedness in social norms of high-emission modern lifestyles and consumption practices, and their powerlessness or lethargy in counteracting these norms. This obstacle is linked to internal barriers of behavioural habit and perceptions of comfort or ease, as well as economic and infrastructure-related barriers concerning path dependencies and the unavailability of low-carbon alternatives for daily actions. Janet said, "I *do* think about it and I do try and reduce *my* waste. [...] But then there are times when [...] the way that things are set up then you generate waste just by existing". Peter described why it was "harder to be part of the solution than be part of the problem": "I will have to change my

life in a way that is, it will be less comfortable". Quinn's comments reflected the same barrier: "Um, like, I won't *not* catch an aeroplane [laugh], you know. [laugh] [...] I won't live in a complete bubble. [...] Without, you know, those modern day things".

Beyond these barriers, participants also expressed a range of explicit and implicit motivations to take mitigating action according to their understanding of climate change. Motivating factors for participants included connection with nature; concerns for other peoples and future generations; responses to consumerism, wastefulness and the technological society; and religious faith and spirituality. Connection with nature was a prevalent reason to engage in climate related action. Janet, for instance, was motivated by her positive experiences in and affection for the natural world and her desire to share that aspect of her identity with her children. She said:

> I walk and I go in the bush and I surf and I enjoy being in the sea and, you know, and that's real big part of my identity, and my love for being in the mountains and all that, so I want to impart that to my girls and them to be able to enjoy those things too [...]. [Janet]

Though Beth rejected the veracity of climate change she was passionate about pollution and similarly motivated to act by her affinity with nature and a care for future generations. For her, "caring for the Earth" and climate change were "two separate issues":

> I think the pollution thing [...], we have to try and do what we can to limit that. You know, that's just [...] looking after the Earth for the future generations. That's a responsibility. Yeah, we all have that and that's what we should all be pushing. [Beth]

This care for others was shared by Frances, who positioned a motivation to act in her understanding of global citizenship, an awareness of her own privilege, and a concern for social justice. She said, "I think I accept that the world is very sick and very broken and [...] I've got a responsibility to use my resources and whatever I can to try and be a positive influence in this world.

A further reason to engage in climate action centred on responses to perceptions of sociocultural phenomena including consumerism, wastefulness and the relationship between society and technology. For example, Frances expressed a commitment to a life of simplicity and frugality, which was framed by understandings of overconsumption and wastefulness: "I've always, um, been drawn to the whole idea of the simple lifestyle because [...] I really still like the idea of living in a commune, hippy at heart [...]." Quinn was similarly motivated to simplify her lifestyle as a redress to her understanding of society's dysfunctional relationship with technology. She said, "I've sort of unplugged quite a lot and I've gone sort of the other way in thinking about how I'd like to reconnect [...] with myself and develop my own awareness."

Religious and spiritual beliefs were also a motivating factor for participants. Frances described her Christian faith as foundational to the way she lived: "I mean I obviously, I come from that Christian framework where the idea of laying down your life for your friends is really essential [...]." But for other participants, a reason to act lay in their Earth-centred spirituality. Eric said, "I believe in this planet is our mother and the sun is our father", while Quinn expressed "an inherent concern for Mother Nature". Beth was equally motivated: "My personal take is I love Mother Earth. I think she's the healer of all. And I think that [...] we need to look after the Earth [...].

To summarise, this subtheme depicted how participants articulated the barriers and motivations to their climate change actions. A range of psychocognitive, political, and social obstacles were expressed, particularly various forms of distancing, political alienation, and the inherent path dependencies of high-emission modern lifestyles. Participants talked about how were motivated to act, however, by factors such as their affection for nature, sociocultural critiques, or spiritual and religious beliefs.

5. Discussion and Conclusion

5.1 Introduction

In this chapter, each of the developed superordinate themes and its constituent subordinate themes will be discussed sequentially within the context of extant literature. Following comments concerning the academic and practical implications of the findings, the methodological limitations of the study are addressed. Recommendations for future research are discussed, and the chapter ends with concluding remarks.

5.2 Thematic Discussion

5.2.1 Climate change as a physical process. The analysis revealed that all participants were aware of climate change and held understandings of the phenomenon as a physical process. There was general concurrence with scientific findings on the definition, cause, and consequences of climate change. However, there was widespread scepticism about both humanity's influence on climate change and the temporal proximity of its consequences as well as frequent conflation with other environmental phenomena. These understandings echoed the findings of other studies. Tranter and Booth's (2015) cross-national research found comparatively high levels of scepticism about climate change among New Zealand citizens. Addressed in the following section, the recurrent distrust of government which was expressed by participants is of further significance in this regard given that the same study found this a positive predicator of scepticism. The findings illustrate that scientific knowledge about climate change among New Zealanders appears to have developed since Bell's (1994) investigation, in which he found a minority of participants could identify the causes of global warming. This is perhaps unsurprising given the extensive attention given to climate change in the media in the intervening years. However, the identified conflation of stratospheric

ozone depletion and climate change persists. In common with studies of other publics (Bostrom et al., 1994; Dunlap, 1998), participants also associated the phenomenon with pollution and general environmental degradation. As a consequence of these conflated understandings, the policy preferences and practices of participants had ambiguous links to effective climate change action.

These understandings were shaped by a range of informal experiences. Reflective of the common conflation described above, participants centred their level of concern about climate change and their understanding of its veracity on direct experiences of weather and air pollution. Past research has similarly found that perceptions of changes in the weather over time are positively associated with a belief in or a concern about climate change, although the relationship is mediated by environmental values (Krosnick, Holbrook, Lowe, & Visser, 2006; Whitmarsh, 2008). Apart from such experiences, however, the participants identified media content as a major information source for their physical understandings of climate change, particularly broadcast mediums and the Internet. A range of other written, visual and interpersonal sources were also named. This prominence of media reports and friend and family as informants is commonly reported in extant research (Cabecinhas, Lázaro, & Carvalho, 2008; Stamm, Clark, & Eblacas, 2000).

The participants' descriptions of these various sources highlighted the influence of homophilous social relations, informational echo chambers, trust, and extant cognitive schemata on their physical understanding of climate change. Addressed in the following section, participants expressed a broad mistrust of elites in many sectors, including the media. Findings appeared to show that the participants turned to trusted interpersonal and information sources that reinforced their existing understandings of

climate change and, conversely, rejected those sources that jarred with these understandings. Informal experiences were similarly interpreted through these schemata. Extant research confirms the impact of these social and cognitive determinants on climate change opinion (Feldman, Myers, Hmielowski, & Leiserowitz, 2014; Joireman, Truelove, & Duell, 2010). The findings also indicate that, despite the conflation in climate understandings, building climate literacy alone may be insufficient to motivate action. This lends supports to research that challenges the information-deficit explanation of climate inaction (Kahan et al., 2012; Ungar, 2000).

5.2.2 Climate change as a sociocultural story. Within the interpretations of climate change, the analysis uncovered a ubiquitous distrust of social elites. Evident in many societies, the growing distrust of authority figures and lack of confidence in social institutions is the topic of much research (e.g., Dalton, 2012; Edelman Trust Barometer, 2017; Norris, 2011). In this study, participants doubted the motives of political leaders, they believed that multinationals or governments were suppressing mitigative technologies, and they expressed scepticism about the media's capacity to report unbiased climate change information. Participants distrusted both the message carriers of climate change in the media and those who would propose and implement solutions. Informed by perceptions of political economic corruption and expediency, this broad distrust of social institutions expressed itself in disengagement and powerlessness whereby climate change action was understood to be in the control of self-serving elites. Echoing Tranter and Booth's (2015) connection of distrust to scepticism, it also was linked with the participants' uncertainty about, or indeed rejection of, climate change. The findings of this study resonate with other research which shows the implications of the behavioural and emotional responses that spring from this distrust. A small-scale

New Zealand study illustrated how perceptions of powerlessness were associated with lower levels of mitigative action (Aitken et al., 2011). Similarly, distrust of government influences the public's beliefs in the need for or efficacy of individual action on climate change (Ockwell, Whitmarsh, & O'Neill, 2009) and undermines support for public policy (Fairbrother, 2017).

The analysis also revealed how climate change is interpreted as symptomatic of underlying issues. Adopting a holistic view, participants saw climate change as reflective of a broad dysfunctionality, which encompassed aspects of psychological and social conduct, culture, and political economy. This was expressed in several ways. Climate change was understood as enmeshed with modern consumer lifestyles, inequality, population growth, and increasing commodification. It was indicative of a comprehensive social and environmental disconnection. It was seen as a hoax aimed at further concentration of wealth, and it was understood as the consequence of human hubris and cognitive and moral failings. Respondents in other in-depth studies have similarly contextualised climate change within broader perceived social and moral problems (Bulkeley, 2000; Darier & Schule, 1999; Maibach, Nisbet, Baldwin, Akerlof, & Diao, 2010; Williams & Schaefer, 2012).

However, these diagnoses and expressions of distrust are also evocative of Hulme's (2009) study, which placed the roots of disagreement about climate change in the divergences amongst individual and collective ways of understanding the world. Understandings of and responses to climate change are entangled with and shaped by a complex suite of ideologies, values, beliefs, identities, and cultural practices.

5.2.3 Climate change as a personal story. The analysis depicted how climate change understandings evoked negative and unpleasant emotions for the participants.

Interpretations of the scale of the problem raised feelings including hopelessness, fear, guilt, and anger. For those participants that recognised the veracity of climate change, such feelings were often associated with expressions of powerlessness in regard to effective action. For Kent (2016), such feelings of powerlessness are embroiled in the emphasis by governments on individualistic consumptive responses to climate change. Recognising the complexity of climate change, the inadequacy of political action and their own ability to affect change, individuals choose inaction or they engage in tokenistic private-sphere behaviours. The finding also points to an important dynamic in the relationship between cognition, emotion and behaviour. Climate change can evoke strong emotional responses such as fear or powerlessness, which can in turn hamper thought and action (Moser, 2007). Yet, research has illustrated the driving influence of negative emotions on particular types of personal environmental behaviour (Grob, 1995; Meijinders, Midden, & Wilke, 2001). Moreover, Smith and Leiserowitz (2014) found that the experience of discrete emotions in respect of global warming, in particular worry, interest and hope, was strongly correlated to increased support of climate and energy-related policies. Significantly, however, the research also finds that an individual's perceptions of self-efficacy and action effectiveness are crucial to the success of fear-based messaging (O'Neill & Nicholson-Cole, 2009; Witte & Allen, 2000). Echoing the findings of this study, the absence of both can prompt defensive responses such as apathy and denial. The experience of negative emotions for participants may have been an insufficient precursor to action, given the common expressions of low efficacy and conflated understandings of effective mitigating behaviours.

Related to these emotional responses, the analysis also captured the ways in which participants expressed denial through their interpretations of climate change. Although outright rejection was unusual, more common forms of denial operated in tandem with an acceptance of the veracity of climate change. These included blame shifting, various types of rationalisation (such as a reliance on technology and emotional management), as well as a socialised avoidance of the issue. Similar to literal denial, these more subtle forms saw the participants minimise climate change and retain their extant behaviours and attitudes. Research has investigated the foundations, strategies and actors involved in the outright denial of climate change (e.g., Dunlap & McCright, 2010; McCright & Dunlap, 2011b; Oreskes & Conway, 2010). The common correlation of this form with conservative political ideologies (Douglas, 2007) was not evident in this study, however. Beth, as the sole participant who emphatically rejected the veracity of climate change, self-reported as a moderate liberal. Resonating instead with research that has incorporated Douglas and Wildavsky's Cultural Theory into its analysis of climate change perceptions and policy preferences (e.g., Leiserowitz, 2006; McNeeley & Lazrus, 2014), Beth's denial appeared rooted in a particular cultural worldview, which encompassed a market individualist perspective and a benign understanding of nature.

The more subtle ways of denying climate change, however, are expressive of the 'implicatory' form of denial articulated by Cohen (2001). Applying Cohen's conception to climate change, it refers to the individual and collective minimisation or avoidance of the psychological, moral and political implications of climate change rather than a denial of its scientific or factual reality. As Cohen (2001) described, "knowledge itself is not at issue, but doing the 'right' thing with the knowledge" (p. 9). The various forms of

denial articulated by participants did not appear as a rejection of climate change, therefore, but as an intentional choice not to incorporate its consequences into their everyday lives or collective action. Similar to the ethnographic findings of Norgaard (2011), participants distanced the implications of climate change to manage difficult emotions or sustain aspects of their identity. However, these personal expressions of denial were also interwoven with and supported by collective forms of denial through a socialised silence around the issue and through the cultural practices and path dependencies entailed in global capitalism.

5.2.4 Climate change as a call to action. Analysis revealed the participants' normative understandings of responsibility for climate change action. Expressing doubts about the efficacy of non-state actors, the prevailing view was that government should legislate in the interests of wider society through both market and non-market tools. This finding was in contrast to a New Zealand Horizon Poll (Horizon Research, 2012) in which respondents asserted the need for more action on climate change by a broad range of actors. However, other research has similarly found that the public, in recognising the insufficiency of individual action, looked to the government to legislate for a collective response (Darier & Schule, 1999; Stoddart, Tindall, & Greenfield, 2012). Given the participants' frequent expressions of low self-efficacy, the identification of government as the lead actor in climate action may, however, be a means of externalising responsibility. The distance between the awareness of the problem and personal inaction may cause individuals to ascribe responsibility to other actors thus diluting their own sense of culpability. Research has pointed to the use of this psychological defence mechanism in distributing the emotional burden of climate change (Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007). However, it may also be

reflective of the structured political passivity and helplessness described by Putnam (2000) and Etzioni (1994). The participants' deference may simply be inculcated.

The analysis also captured the participants' understandings of climate related policies and practices in regard to their own actions, their normative views on the appropriate steps of other actors, and their interpretations of specified climate change policies. Personal actions were undertaken in varying degrees but focused on small scale steps involving energy efficiency and waste reduction. In this respect the findings resonated with a 2014 survey (Horizon Research, 2014), which found a minority of New Zealanders considered themselves likely to alter their transport usage. Echoing this same poll, expressions of self-efficacy amongst participants were divided. Moreover, some of the responses that were identified by participants revealed their conflated understandings of climate change, particularly in regard to reducing pollution. This same lack of knowledge amongst the public about effective mitigating strategies is illustrated in North American studies (e.g., Truelove & Parks, 2012; Weber & Stern, 2011). In respect to normative views on the actions of others, participants chiefly focused on government responses. Public education campaigns and the facilitation of community-led initiatives were identified as priorities. Reflective of understandings that contextualised climate change within broader problems, however, some also advocated for valued-based cultural shifts. Moreover, there was widespread support for named policies such as subsidising solar panels but overall the participants expressed divided approval. Research has found that public support for climate policy is driven, in part, by perceptions of risk (Leiserowitz, 2006) and that an understanding of scientific consensus on climate change correlates with higher levels of support (McCright,

Dunlap, & Xiao, 2013). Such division, therefore, may be a manifestation of the frequent expressions of uncertainty about climate change.

Findings also depicted the ways in which participants articulated the barriers and motivations to their climate change actions. Various psychocognitive, political, and social obstacles were expressed, particularly various forms of distancing, political alienation, and the inherent path dependencies of high-emission modern lifestyles. Research has similarly identified a broad range of structural and psychological barriers to mitigating action (Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007; Milfont, Milojev, Greaves, & Sibley, 2015; Semenza et al., 2008). Beyond these barriers, however, participants described how they were motivated to respond to climate change by factors including their affection for nature, sociocultural critiques, and spiritual/religious beliefs. Such internal motivations were in contrast to the extrinsic prompts examined in a recent New Zealand poll (Horizon Research, 2014). In comparison to demographic and external factors, however, internal motivations have been found to be substantially more significant in driving pro-environmental behaviour (Han, Hsu, Lee, & Sheu, 2011; Kollmuss & Agyeman, 2002; Stern, Kalof, Dietz, & Guagnano, 1995).

5.3 Implications and Contributions

The findings presented in this thesis may be disconcerting for policymakers, activists and communicators alike. Despite a general acceptance of the veracity of climate change and its anthropogenic causation, understandings are conflated with other environmental phenomena and shaped by widespread distrust of social elites and various forms of subtle denial, which in turn appear to lead to confusion about appropriate mitigative actions and hamper the behavioural changes required to mitigate

the worst effects of climate change. Several practical and academic implications and contributions of the study are evident.

First, the main academic contribution has been to develop an understanding of the content and possible formative factors of New Zealanders' interpretations of climate change, and the relation of those interpretations to policy preferences and practices. The use of IPA has facilitated an in-depth exploration of how members of the New Zealand public make sense of climate change and highlighted the multiple realities of the phenomenon, which are shaped by various sociocultural factors, experiences, values, beliefs and emotions. The study has established a sound basis for future research of New Zealand opinions on climate change to test and extend its findings.

Moreover, this study has implications for public opinion research, particularly on poorly understood or high complex issues such as climate change. With its idiographic focus, the use of IPA has highlighted the need to disaggregate public opinion and be attuned to individual perspectives and the interplay of top-down and bottom-up opinion dynamics. Conventionally, such research utilises survey instruments and adopts an aggregate outcome-centred conception of public opinion. As Walsh (2009) lamented, "[c]urrently, the study of public opinion is synonymous with conducting polls" [p. 168]. The approach can be useful for capturing a snapshot of collective preferences (Page & Shapiro, 1992; Stimson, Mackuen, & Erikson, 1995). However, a rich body of scholarship criticises the approach (e.g., Berinksy 2013; Bishop, 2005; Blumer, 1948; Bourdieu, 1979; Broughton, 1995; Crespi, 1997; Habermas, 1989; Herbst, 1995; Lee, 2002; Lee, 2002b; Walsh, 2009). Space constraints prevent an evaluation of the work here, but the assessment of public opinion through polling is criticised for its masking and numerical reductionism of the diversity,

contingency, and contextualism in the opinions of individuals and subgroups. Focusing on opinion as a static aggregation of disparate individual perspectives, it is neglectful of opinion formation and expression as a dynamic, interactive process. Meeting this criticism, the use of IPA gives individuals the space to contextualise their opinions about an issue in complex and dynamic webs of meaning and allows researchers to listen, observe, and gather rich experiential data. It affords opportunities for important insights into opinions which are unmatched by traditional methods. Using a interpretivist methodology which is attentive to the grassroots processes of opinion development and expression, therefore, this study offers an alternative or potentially complimentary approach to the use of survey data.

In addition, the study has a number of practical implications. Findings indicate that designing policy, activating behavioural change, engendering policy support, and mobilising collective action must cater to the homogeneity in climate change understandings. Two aspects to this broad implication are discussed below.

Firstly, neither the denial or acceptance of climate change in itself can be assumed to imply particular policy preferences, behaviours, or environmental affect. Those who seek therefore to engender support for climate policy or activate changes in individual behaviour must be cognisant of the diverse meanings attached to the term "climate change" and the unintended consequences its use may entail. Climate change is not a neutral expression. This attention is particularly pertinent given the study's finding of a widespread conflation of climate change with other environmental phenomena such as pollution, and the varying but common expressions of scepticism amongst those who nonetheless accepted its veracity. Findings from this study illustrated that pro-environmental actions and support for mitigative policy stood alongside an

understanding of climate change as a hoax and a distrust of social elites. Similarly, concern about climate change and a belief in its veracity did not necessarily express itself in effective action. Findings suggested this could be due in part to conflated understandings and hence a misconstrual of the appropriate mitigating actions that could be taken, for both individuals and governments. Thus for subgroups that are identified as resistant to climate change, other framings such as environmental care may be more appropriate. Given that information is interpreted through extant cognitive schemata, the supply of scientific evidence or a climate change framing may only serve to strengthen beliefs and be counterproductive to objectives. Conversely, when targeting those individuals who accept climate change, communicators and policymakers should attempt to ensure an accurate understanding of the phenomenon and its links to meaningful responses.

Related to this point, care should be taken with negative message framing and clichéd iconography. This research found that the now commonplace visual imagery of polar bears and smoke-stacks in news articles evoked cynical and ambivalent emotional responses. Attention should be given therefore to the ways in which visual representation of climate change may undermine or promote perceptions of efficacy or saliency, and thus influence policy preferences and behavioural change. Communicators may be advised to avoid clichéd imagery in favour of innovative messaging, or to use such images for audiences less familiar with climate change. Similarly, communicators and policymakers should be wary of messages of loss, disaster and cost. Findings from this study indicated that negative framing in sources of climate change information such as news articles and documentaries stirred up feelings of anger, guilt, fear, defensiveness, and powerlessness. Such feelings were connected to avoidance of

climate change and rejection of its veracity. The same principle extended to political leadership and the expression of policy preferences with findings indicating a preference for a solutions focus and the use of positive incentives in policy.

5.4 Limitations of the Study

This research sought to explore the climate change understandings of members of the New Zealanders public using a qualitative approach. Like all research, however, this study holds particular limiting conditions. Related both to aspects of the methodology and the design, the potential impact of these limitations on the interpretation of the findings has been carefully and critically assessed. Where these limitations were understood prior to the completion of the study, strategies have been implemented where appropriate and possible to minimise this impact. Details of the limitations and these strategies follow.

5.4.1 IPA as an approach. In common with many qualitative methods, IPA relies on subjective judgements or interpretations by the researcher. As Smith et al. (2009) noted, IPA entails the researcher making sense of a participant making sense of a particular phenomenon. Any analysis is subjective, the authors reasoned, and thus claims are cautiously presented as possible readings rather than representative of 'truth'. As they qualified, however, "that subjectivity is dialogical, systematic and rigorous in its application and the results of it are available for the reader to check subsequently" (p. 80). In order to reduce the 'interpretive gap' (Edwards, 2012) between the participants' words and the understandings derived from them, care was taken not to impose theoretical or subjective preconceptions through sensitive and active interviewing, the use of reflexive journaling, systematic analysis, and the use of numerous excerpts from participant accounts. Nevertheless, it is important to acknowledge that, as Smith et al.

(2009), noted an IPA account aims to be "a credible one, not the only credible one" (p. 183).

Moreover, data collection in IPA assumes the capacity of participants to recall and articulate their experiences. Captured in this limitation is the extent to which the accounts of participants, and thus the researcher's interpretations, are shaped by various factors including their linguistic-cognitive abilities, their position, aspects of bias such as nonveridicality and reactivity, or by their choices to edit or embellish responses. IPA's reliance on language to capture experience is thus criticised by Willig (2008) and Brocki and Wearden (2006), a critique echoed by Gauntlett (2007) in his comments on the deficiencies of verbal interviewing methods in general. This 'limitation' of IPA however can be understood as a reflection of the 'messy' (Grix, 2004) nature of interpretivist-based research. IPA is concerned with intersubjective meaning-making and multiple levels of interpretation rather than provable truth. It deals with a contextualised perspective of the experience rather than the experience itself (Willig, 2008). Recognising this limitation, however, the researcher paid careful attention to building and maintaining rapport in the interview to facilitate a space of trust and openness using techniques such as informal chat prior to commencement and active listening. The researcher was also attentive to the ways in which he and the study itself could influence the responses of participants, watching, for instance, for shifts in body language or tone and probing accordingly. Following Padgett (2008), prolonged engagement through lengthy interviews facilitated this awareness – as well as a more trusting and authentic space – as did the use of reflexive journaling. The researcher's extant experience as an interviewer was also helpful in this regard.

A further limitation concerns the depth of interpretation undertaken. Given the iterative nature of data analysis in IPA, there is no predetermined endpoint on the path to understanding how participants make sense of the phenomenon under study. Smith et al. (2009) determined that there are at least three levels of interpretation that can be applied to each account, which are social comparison, metaphorical and temporal. For the authors, analysis to the first of these levels is a satisfactory standard for novice IPA researchers. Thus, both the researcher's inexperience with IPA and time constraints have precluded a richer interpretation of the data.

5.4.2 Sample. Given its idiographic character, IPA is commonly conducted with small sample sizes of between three and six participants (Smith et al., 2009). Studies predominantly seek a fairly homogeneous sample, given that the goal is representation of a particular perspective rather than of the population. It could be argued therefore that this study's sample should have centred on a common social category such as age or gender in order to examine the variability and convergence within that particular group. However, the extent of homogeneity is determined by each study (Smith et al., 2009). In this research, climate change has been understood as a universal social phenomenon. Thus while homogeneity is achieved in the sense that all participants experience climate change, the sampling approach sought a range of experiences through variation in socio-demographic factors. Referencing an IPA study that had similarly sought a degree of heterogeneity in its sample (John et al., 2009), Smith, Treharne, Mulligan, and Hale (2015) advocated "working outside the cookbook approach to doing IPA" (p. 462) in accordance with the aims of the research. Moreover, Smith et al. (2009) pointed to other IPA studies (Clare, 2002; Larkin & Griffiths, 2004) that explore a phenomenon from multiple perspectives and thus facilitate a more nuanced account. It may be then that the

study is limited in making claims about particular perspectives on climate change but the researcher considers this is redressed in uncovering multiple understandings of the phenomenon.

A further limitation in this vein, however, concerns the absence of some individual perspectives. As apparent in the details about participant demographics and psychographics (see Table 3.1), there was a lack of participants who self-reported their political ideology as conservative. Although the consequence is a less comprehensive understanding, the limitation is regarded as acceptable given that the role of political affiliation or political ideology in climate change understandings was not a specific focus of the study.

5.4.3 Method of data collection. An further limitation concerns the measures used to capture data. The multifaceted and dynamic conception of public opinion adopted in this study can only be partially understood through individual interviews. IPA's focus on the idiographic tends to underplay the social context of individual experience (Kaptein, 2011; Todorova, 2011), and thus the significance of socio-cultural and collective processes in opinion formation. Although this study's time constraints prevented it, a more nuanced exploration of how New Zealanders understand climate change would attend to the interplay of top-down and bottom-up processes through the application of multiple methods, which nevertheless remain sympathetic to an interpretive epistemology. IPA studies that utilise focus groups (e.g., Palmer, Larkin, de Visser, & Fadden, 2010) or observational techniques (Larkin & Griffiths, 2002) that facilitate an understanding of group dynamics offer a direction for further research. Beyond IPA, an ethnographic approach in the vein of political studies by Walsh (2004), Eliasoph (1998) and Norgaard (2011) reveals similarly fruitful potential. In this study,

the method was discounted due to time pressures and the predicted scarcity of naturally occurring conversation about climate change. Nevertheless, the approach can offer rich insight into how people make sense of the phenomenon during everyday interactions. In terms of top-down influences, the study's inclusion of climate related media articles in the participant interviews to explore framing effects provided only surface insight due to the limited length of the conversations. To give greater depth in this regard, the approach taken by Walsh (2004) is instructive. Comparing the results of a conventional qualitative content analysis of climate change news stories with ethnographic observations of participants as they interpret these same stories may give productive insight into how people make sense of media coverage and elite messaging.

5.5 Suggestions for a Future Research Agenda

This research has provided valuable insights into how members of the New Zealander public make sense of climate change. As discussed, there is a dearth of studies of New Zealand public opinion on climate change that have employed a qualitative approach and examined the experiential world of participants. The majority utilise survey instruments and thus offer a somewhat reductionist view of the public's interpretations of this complex environmental, social and political issue and ignore their contextual and relational dimensions. Conversely, the nuances and intricacies of the understandings which were uncovered by this study lends weight to further research in a phenomenological vein. In addition, however, the discussion of findings and the evaluation of limitations has highlighted the following topics for further scholarship.

The first area concerns exploring climate change ordinary talk in the field. The in-depth interview method used in this study generated rich and detailed data but was limited in its capacity to reproduce real-life settings. Moreover, the use of IPA, with its

focus on idiographic understandings, underplayed the social dimension to the construction and expression of opinion. Further research could test and extend this study's findings using ethnographic techniques such as participant observation or the extended case method. The work of scholars like Walsh (2004) and Eliasoph (1998) is demonstrative of the envisaged approach. Furthermore, although it could entail epistemological challenges and conflicts of evidentiary standards, a mixed method approach that attends to the relationship of bottom-up and top-down process of climate change opinion could be fruitful. For instance, an analysis of extant national data such as the Horizon (2014) study could be combined with participant observation and a content analysis of climate change news articles. With each method providing strengths which offset the weaknesses of the other, such an integrated approach could engender a deeper and more robust understanding of opinions.

A second avenue entails the use of a similar methodology to include individual perspectives that were underrepresented in this study, the expansion to other settings, and the implementation of a longitudinal dimension. The inclusion, for instance, of politically conservative voices would be beneficial given that the participants in the study self-report as liberal or moderate. A North American study by McCright and Dunlap (2011b) points to the potential significance of conservative perspectives for climate change opinion in New Zealand. A broader range of ethnicities, including Māori and Pacific peoples, would be similarly advantageous. Moreover, an expansion of the study to other rural and urban settings in New Zealand would test and add breadth to the findings. Given New Zealand's unusual emissions profile, wherein the agricultural sector contributes approximately half of the country's gross emissions, this rural urban frame to climate change understandings could be particularly salient. The New Zealand

evidence base on climate change public opinion also suffers from a paucity of longitudinal data sets. The broad-ranging New Zealand Attitudes and Values Study, a probabilistic national panel study which has tracked beliefs about climate change since 2009, is an isolated case in point. Using Likert scale questions to capture the level of agreement or disagreement with closed statements, this study does not attend, however, to the dynamics and complexities of public opinion. Interested stakeholders would benefit from tracking the effects of changes in the factors that may shape opinion and observing how such dynamics vary across assorted demographic and psychographic groups. Using IPA, such a study should recruit and retain a diverse cohort and gather several accounts over a period of time. Snelgrove, Edwards, and Liossi (2013) is an instructive example.

Third, the dynamics of climate change denial deserve further investigation. The findings of this study highlighted two interesting aspects in this regard. Explicit denial did not equate to an indifference for the environment nor the rejection of policies aimed at mitigating climate change. Conversely, an acceptance of the veracity of climate change operated in tandem with many more subtle forms of denial that nevertheless hindered personal action. Thus quantitative measures of concern and acceptance of climate change as reported in Horizon (2014) or Milfont, Wilson, and Sibley (2017) may be insufficient predictors of action. Further scholarship is required to explore how various forms of denial are sustained and the nature of their relation to action and policy preferences. For instance, are there certain actions that would be beneficial to climate change mitigation such as using public transport or recycling that an individual would undertake regardless of their climate change beliefs? Norgaard's (2004) ethnographic

study of the Norwegian public is useful in such an exploration of denial for its incorporation of both socio-structural and psychological dimensions.

The fourth suggested topic for further research is trust. The study's findings highlighted a broad distrust of elites in the fields of government, business, and media and, as a consequence, a level of doubt about the veracity and causation of climate change. Further New Zealand based research should focus on how individuals assess the information they receive about climate change, how that assessment is shaped by both the source and the framing of the message, and the effect of these perceptions on behaviour. Expressions of cynicism and ambivalence were evident when the study's participants viewed the clichéd imagery of smoke-stacks and polar bears in media articles. This echoes the findings of Corner et al. (2015). There was also evidence of homophilous social relations and information echo chambers shaping the participants' understandings of climate change. In order to engender policy support and promote household action we need to know how trust in the messages of climate change is informed by their source, their framing, and various internal and external factors.

Beyond these topics are further questions. For instance, religious and spiritual belief was shown to be an important motivator for climate change action. Further research could investigate the roles of religious traditions in promoting or dissuading mitigative responses and how these beliefs interact with other aspects of identity to shape climate change understandings. Another question concerns the interplay of opinions about climate change and environmental phenomena such as extreme weather events or pollution. The study illustrated that understandings were shaped by experiences of pollution and media reports of severe climatic phenomena. Additional scholarship should explore the dynamics of this relationship. How do such experiences

shape future actions, and for how long? What role does political identity play in this relationship? Recent North-American research suggests the impact is short-term (Konisky, Hughes, & Kaylor, 2016) and variably affected by political ideology (Bohr, 2017). These areas would constitute a promising agenda for the research of climate change public opinion in New Zealand. While the current exploratory study has provided important insights, there is much to be known in order to provide a strong evidence base for effective policy design and communication.

5.6 Concluding Remarks

This study explored the various interrelated political economy, sociocultural, and psychological processes at play in the formation, maintenance, and modification of climate change opinions, and the mechanics of how climate change opinion translates into policy support and active engagement. The central research question asked how New Zealand citizens make sense of climate change and how these understandings relate to their climate-related policy preferences and actions. Underpinned by an interpretivist epistemology, this question was addressed by bringing a naturalistic qualitative interpretative phenomenological approach to the accounts of a diverse group of New Zealanders. These accounts were derived from in-depth, one-to-one, semi-structured interviews, which were conducted in 2015 with adults who differed according to various demographic and psychographic factors. Transcriptions of these interviews were examined for pertinent themes, which were then constructed into an interpretive analysis according to the research question. The research explored the substance and the formative dynamics of New Zealand public opinion on climate change and its relationship to allied policies and behaviours.

The accounts of the participants have provided important insights in this respect. Participants expressed a rudimentary knowledge of the physical aspects to climate change, although uncertainty was prevalent as was conflation with other environmental phenomena. Participants' scientific knowledge of climate change was shaped predominantly by informal experiences, social relations, and the mass media. However, the ways in which participants talked about these sources conveyed the significance of extant cognitive schemata, patterns of media consumption and echo-chambers, as well as homophilous groups in shaping their understandings. Despite the common conflation and uncertainty, this finding problematised any broad-brush information-deficit approach to engendering policy support or mobilising action.

Moreover, a broad distrust of government, media, and corporations was entangled with the participants' interpretations of climate change. Politicians were seen as self-serving. The media was regarded as biased in their reporting of climate change information. Big business was viewed as suppressing potentially transformative mitigating technology. The distrust expressed may be reflective of the reported rise in populism and growing cynicism towards major social institutions throughout many democracies. But it has critical implications for action on climate change. Holding views of political economic corruption and opportunism, participants expressed powerlessness about climate change. The capacity for action was seen to be in other more powerful hands.

Climate change was also understood as a symptom of broader problems. Reflecting again the entanglement of interpretations with extant values, beliefs, and worldviews, participants described that climate change was enmeshed with consumerism, that it was indicative of social and environmental fragmentation, that it

was a consequence of failings in human nature, or that it was a hoax perpetuated for material gain. Although participants were united in problematising climate change, the diversity of diagnoses reveals challenging disagreements about the appropriate actions.

Engaging with the scale of climate change also raised strong and unpleasant emotions for the participants. Hopelessness, fear, guilt and anger were commonly expressed. For the majority that accepted the veracity of climate change, such feelings were accompanied by descriptions of powerlessness. Complicated by conflated understandings, such responses may have been grounded in low levels of self-efficacy, a lack of understanding about effective actions, and the broad distrust described above.

Denial of climate change was widespread. Rather than literal rejection, however, more subtle and indirect forms operated alongside an acknowledgement of the physical reality of the phenomenon. Blame shifting, rationalisation, and a social silence around the issue was evident. Such implicatory denial (Cohen, 2001) allowed participants to distance climate change and preserve their current behaviours and attitudes.

Normative understandings of responsibility for climate change action highlighted the perception that the government should lead and legislate in the interests of society through both market and non-market tools. Such views appeared to be rooted in perceived inadequacies in the private sector, but they may also have reflected disenfranchisement or the desire to avoid personal responsibility. Participants described a range of mitigating actions that they were undertaking, although these were small scale and were often indicative of conflated understandings. Moreover, whilst there was broad support for some climate related policies, the dominant picture was one of division. In respect of barriers to personal action, various psychocognitive, political, and social obstacles were evident. Climate action was inhibited by various forms of

distancing, political alienation, and the path dependencies of high-emission modern lifestyles inherent in global capitalism. Motivating factors were apparent too. Participants described how were spurred by their affection for nature, by critiques of society, or by their spiritual and religious beliefs.

In sum, therefore, alongside a common understanding of the veracity of climate change and its human causation there is evidence of uncertainty, conflation with other environmental phenomena, distrust of elites, and many subtle forms of denial. Together, these constrain effective action on climate change. Moulded by various beliefs, values, and experiences, the heterogeneity of these New Zealanders' interpretations of climate change implies the need for disaggregated research into public opinion on the issue. It also calls for tailored strategies in designing climate policy, activating behavioural change, engendering policy support, and mobilising collective action.

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Appendix A

Literature Review Method

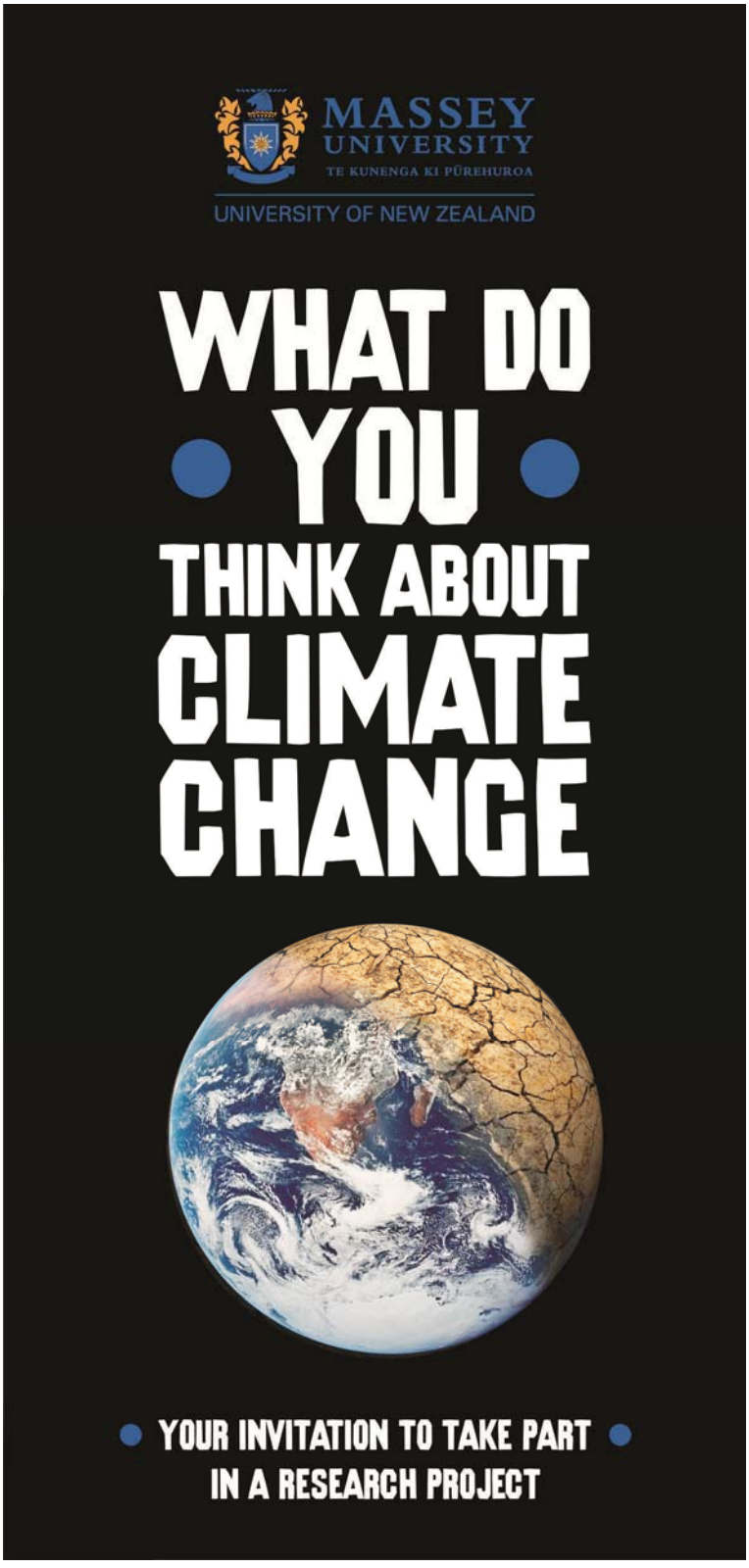
The strategy used to assemble the material for review was as follows. New Zealand scholarly literature was sourced from the Web of Science database in August 2015 and again in January 2016 using relevant keywords. The Boolean search term was arranged to retrieve any articles published up to the search date in which the phrase 'climate change' or 'global warming' was included in the article's title or topic fields, along with 'Zealand' and at least one of the keywords 'public opinion', 'beliefs', and 'attitudes' in the topic. After reading the title and abstract of each prospective article, a paper was retained if it 1) focused on public opinions about climate change whether pertaining to conceptual understandings, policy responses, or adaptive or mitigating actions; 2) reported on research performed with members of the New Zealand population and 3) presented original empirical data or detailed analysis or commentary on extant original empirical studies. The body of a paper was read if the satisfaction of any criterion was unclear.

The researcher was also aware of other recent public surveys of New Zealanders' climate change opinions which had not been published in the academic literature. To access this material, combinations of the same keywords as above were entered into the Google search engine. To increase the geographical relevance, results were filtered to include only New Zealand data. A date filter was also applied to exclude results prior to 1990. Given the broad range and large quantity of results retrieved, the researcher made use of existing knowledge and a snowball approach to identify prospective material. The same inclusion criteria as above were applied to the collection.

As noted, the lack of New Zealand based research necessitated a search of related studies of populations in other countries. Given the deeper and expanding body of interdisciplinary literature in this field, particularly within Europe, Australia, and the United States, a more focused search strategy could be applied. This strategy sought to retrieve papers with similar qualitative methodologies, attended to the dynamics of climate change opinion formation and change, or considered the translation of opinion into policy support and action. Scholarly papers published from 1990 were sourced through the Web of Science database in November 2015. The Boolean query was designed as above but excluded the keyword 'Zealand' and included combinations of the keywords 'phenomenological', 'qualitative', 'depth', "lived experience', 'interview', 'policy', 'action', 'factors' and 'barriers'. The criteria for inclusion equalled those of the New Zealand literature search, except that studies could be focused on publics in other nations and attention was also given to highly-cited papers and prominent authors in the field. The following sections are a thematic synthesis of the selected literature.

Appendix B

Information Sheet



IF I PARTICIPATE, WHAT ARE THE BENEFITS?

Besides a token of appreciation offered at the end of the interview, the benefits include the opportunity to reflect on and share your views and experiences of climate change. Your contribution could also contribute to decision-making and greater knowledge on the topic.

WHAT ARE THE RISKS TO ME IF I PARTICIPATE?

Although it is unlikely that your participation in the study will entail any harm, it may be that you are concerned about the confidentiality of the information that you provide. While I am interested in your understandings and experiences of climate change, the conversation will not be of a deeply personal nature. Any information you provide will be reported using an alias and will exclude any details which can point to your individual identity. All identifying data will be accessible only by me. Though it is not possible to provide an absolute guarantee of confidentiality where information is being recorded, confidentiality is assured to the extent of the law. You might also feel concerned about conducting the interview in your home, in which case I recommend you choose the default option of holding it in a public place. Climate change issues have been noted to invoke strong opinions. Your views, whatever they are, are welcome. However, if you feel distressed or uncomfortable at any time during the interview I invite you to temporarily halt the conversation or to withdraw from the study.

• I WOULD LIKE TO TALK TO YOU ABOUT YOUR VIEWS ON CLIMATE CHANGE, CLIMATE POLICY, AND HOUSEHOLD ACTION

WHAT DO YOU UNDERSTAND ABOUT CLIMATE CHANGE?

•

HOW HAVE YOU FOUND OUT WHAT YOU KNOW?

•

WHAT ACTION SHOULD GOVERNMENT OR BUSINESS TAKE?

•

HOW DO YOU THINK CLIMATE CHANGE WILL AFFECT YOU OR YOUR FAMILY?

•

WHAT ACTION ARE YOU TAKING?

• WHATEVER YOUR VIEWS ON CLIMATE CHANGE, I AM INTERESTED IN TALKING TO YOU ABOUT THEM.

IF I PARTICIPATE, WHAT ARE MY RIGHTS?

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study at any point until data analysis commences on 5 October 2015;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded;
- ask for the recorder to be turned off at any time during the interview.

WHO SHOULD I CONTACT FOR MORE INFORMATION ABOUT THE RESEARCH?

Should you have any questions, please do not hesitate to contact me or my supervisor.

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WHAT DO • YOU • THINK ABOUT CLIMATE CHANGE

• YOUR INVITATION TO TAKE PART IN A RESEARCH PROJECT •

AN INTRODUCTION AND INVITATION

My name is Ross Allan and I am a Masters student in politics at Massey University in Albany, Auckland. I am inviting you to participate in a research project that I am conducting under the supervision of Associate Professor Grant Duncan to explore New Zealanders' opinions on climate change. Your agreement to take part in this study would be greatly appreciated.

YOUR VIEWS ON CLIMATE CHANGE

The purpose of this research is to explore the factors that influence an individual's opinion on climate change and how this opinion relates to policy preferences and actions.

The focus of this research has arisen because the broad scientific agreement on the incidence, causes, and consequences of climate change is out of step with public consensus and political response.

Public opinion about climate change matters. Since it drives both policy decision-making and individual and collective action, we must understand more about its dynamics.

This project seeks to explore how New Zealanders like you make sense of and experience climate change.

TAKING PART

I am interviewing around six to seven people from a variety of backgrounds about their views on climate change. If you would like to volunteer, please email **ross.allan.2@uni.massey.ac.nz** Given that data collection needs to commence by late September, please express your interest as soon as possible.

If you don't want to participate, you do not have to do anything in response to this request.

HOW WAS I CHOSEN?

This invitation to participate has been delivered to you because I'm interviewing men and women from a range of social and political situations. The same invitation has been delivered to other households in this area.

HOW DO I VOLUNTEER TO PARTICIPATE?

You can volunteer to participate now by emailing **ross.allan.2@uni.massey.ac.nz** You're welcome to contact me if you have any questions about the research.

Alternatively, I'd like to call back sometime in the next week at which point, if it's convenient to you, you could let me know whether you or anyone else in your household would be willing to take part.

I hope that you will volunteer to be one of a small group of six to seven participants with whom I can gather deep and valuable information. However, if the number of volunteers exceeds my target number of participants, I will need to select a range of volunteers who vary in age, gender, geographic location, education, and political ideology. I'll ask you some questions to gather this information when you volunteer. To participate you'll need to be at least 18 years of age, proficient in English, and capable of giving informed consent. I aim to notify all volunteers with the outcome of the sampling process by Friday 18 September, 2015. If you are selected, the Participant Consent Form will be either posted or emailed to you at that time. You will be asked to read and sign the Consent Form and then return it to me or my supervisor by post. I'll then contact you to organise a convenient time and place for the interview.

You can withdraw at any time until data analysis commences without consequence and without the need for any explanation.

IF I PARTICIPATE, WHAT WILL I NEED TO DO?

I'll interview each participant face-to-face at a convenient time in a quiet public place of mutual agreement, or, if you prefer, in a relatively quiet space in your own home. The interview will be of a conversational nature, it will include some visual prompts including climate related photographs and media clippings, and it will last approximately one hour. I'm interested in your views on climate change, what you think about existing or potential political responses, and what climate-related actions you're making or would like to make in your own life. With your permission, I will make an audio recording of the interview to ensure that I accurately recall the information you provide.

A TOKEN OF APPRECIATION

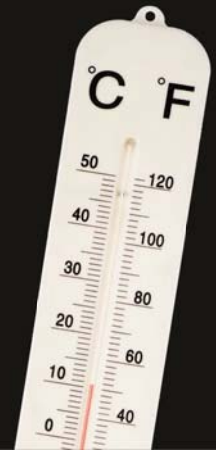
As an expression of gratitude for your time as a participant, I will offer you a $25 grocery voucher or equivalent as you choose (for instance, a book voucher) at the completion of the interview. This in no way obligates you to receive the gift or to remain a participant if you wish to withdraw.

IF I PARTICIPATE, HOW WILL MY DATA BE MANAGED AND STORED?

At the completion of the interview, any audio recording made will be transcribed. As a participant, you will have the opportunity to review, amend, and approve your transcription by requesting this at the completion of the interview. The transcription will be emailed or posted to you and it is requested that this be returned with approval subject to any amendments within one week of receipt.

The identity of all participants will be kept confidential through the use of pseudonyms in transcripts and any subsequent publication. The comments and reflections that you share during the interview will be analysed along with those from other interviews to uncover common ideas and patterns. I also request your permission to use quotations within the publication of this research. Data will be used as part of my Masters thesis, which I expect to complete in February 2016. Information from the interviews may also be used in subsequent journal articles or conference proceedings. Raw data will be stored securely in password protected electronic files or locked filing cabinets until completion of this project, when it will be destroyed.

If, as a participant, you would like to receive a summary of the project findings when these are available, please contact me.



Appendix C

Participant Consent Form

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

PROJECT TITLE: UNDERSTANDING NEW ZEALAND PUBLIC OPINION ON CLIMATE CHANGE

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being sound recorded.

I wish/do not wish to have my recordings returned to me.

☐ I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: Date:

Full Name - printed

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Appendix D

Participant Biographical Information Form

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

PROJECT TITLE: UNDERSTANDING NEW ZEALAND PUBLIC OPINION ON CLIMATE CHANGE

SOME BIOGRAPHICAL INFORMATION

I mentioned that I'm looking to reflect a diversity of viewpoints in this study and that I'd ask you some biographical questions. If you would prefer not to complete one or more of the questions below, you're absolutely free not to answer. This information, like all your data in this project, is confidential.

AGE ☐ 18-30 ☐ 31-48 ☐ 49-67 ☐ 68+ ☐ Prefer not to answer

GENDER ☐ Female ☐ Male ☐ Prefer not to answer

POLITICAL IDEOLOGY ☐ Liberal ☐ Moderate ☐ Conservative ☐ Prefer not to answer

PREFERRED POLITICAL PARTY ☐ National ☐ Labour ☐ Green ☐ NZ First ☐ Māori Party ☐ ACT ☐ United Future ☐ Other_____ ☐ Prefer not to answer

EDUCATION ☐ Less than high school ☐ High school graduate ☐ Tertiary graduate ☐ Tertiary post-graduate ☐ Prefer not to answer

ETHNICITY ☐ Kiwi/ New Zealander ☐ European ☐ Māori ☐ Pacific ☐ Asian ☐ African/ Middle Eastern/ Latin American ☐ Other ☐ Prefer not to answer

HOUSEHOLD INCOME ☐ Under $32,100 ☐ $32,100 - $55,499 ☐ $55,500 - $82,499 ☐ $82,500 - $123,299 ☐ $123,300 and over ☐ Prefer not to answer

RELIGION ☐ No religion ☐ Christian ☐ Buddhist ☐ Hindu ☐ Muslim ☐ Jewish ☐ Other _____ ☐ Prefer not to answer

WHAT WOULD YOU SAY IS YOUR MAIN SOURCE OF NEWS ABOUT CURRENT EVENTS IN NZ & THE WORLD?

Please specify _____ ☐ Prefer not to answer

Appendix E

Interview Schedule and Visual Prompts

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

PROJECT TITLE: UNDERSTANDING NEW ZEALAND PUBLIC OPINION ON CLIMATE CHANGE

INTERVIEW SCHEDULE

Could you tell me what climate change means to you?
(Prompts and probes: What do you know or have heard about climate change? How has that changed over time? How convinced are you about it; Causes; Consequences good/bad - Why? (elicit moral system/values/beliefs); Who or what if anything is to blame? Anything else?)

How did you hear about that information?
(Prompts and probes: Media; scientists; political leaders; friends/colleagues; movements. Can you tell me more?)

What do you think about what you've heard?
(Prompt and probes: How believable is it? How trustworthy? Why? How do you decide?)

If you have, how do you talk to others about climate change?
(Prompts and probes: Friends/family/colleagues; Can you tell me about a recent time that you've talked about climate change with someone else? Why? Tell me what you were thinking? And if not, why?)

How does climate change make you feel?
(Prompts and probes: Troubled? Ambivalent? Hopeful? Why? Can you tell me more about that? What images come to mind when you think of climate change? Images meaning sounds, pictures, sounds, tastes. How do those images make you feel?)

Tell me about what you think some of the impacts and threats of climate change are now or in the future?
(Prompts and probes: On you/family; community; NZ; world; poor/developing; particular groups e.g. farmers; non-human; Example consequences: Drought; floods; fire; typhoons; disease/pests; migration; civil unrest; political instability; erosion/sea level rise; food insecurity. How does that make you feel? Why?)

How present are those impacts and threats?
(Prompts and probes: Explore presence in respect of time/space/emotion. What's the timing? Who will it affect? Why? How?)

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MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

How has what you understand about climate change affected how you live now? How about in the future - how will it change how you live in the future?
(Prompts and probes: Has it affected your relations with others? How? Why? How do you see the world now? How you see/feel yourself/Family & Friends/Job/Community/Non human nature. Why? Tell me more? How do you feel about that?)

What steps or policies should be taken to address climate change?
(Prompts and probes: Mitigation/adaptation; Who should take them? Government? Business? Each of us? Why? Why do you think [named step/policy] isn't been taken?)

What steps are you taking now or intending to take in the future? What won't you do?
(Prompts and probes: Some examples: Energy efficient appliances; reduce travel; communicate views to others/politicians; donate money; volunteer time to a movement. What do you think/feel about those? why?)

I have a range of policies that governments and businesses are looking at or are currently undertaking, not necessarily in New Zealand but in other locations. I'm interested in your thoughts on each of them.
(Named policies: Special fund for energy efficient buildings ; fuel economy standards ; tax on greenhouse gas emissions; regulation of carbon dioxide as a pollutant; subsidising solar panels; renewable energy research and development)
(Prompts and probes: Elucidate as needed but allow participant to set policy boundaries. Do you support or reject it? Will it work? Why/why not?)

I'm going to show you a series of brief excerpts from recent articles in a range of New Zealand media. Can you have a read and then tell me your thoughts?
(Prompts and probes: What do you think about what the article seems to be saying? How would you know whether it's trustworthy? Why? Say more?)

Overall, how do you feel about what we've been talking about today?
(Prompts and probes: Has anything changed about your understanding? Why?)

Biographical info
Finally, I'm going to give you a sheet with some background questions so that I can get a variety of viewpoints. Advise participant of $25 grocery voucher or alternative. Thank you/closing/invite questions.

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NZ 'far from doing its fair share' on climate change - agencies

The government's new emissions reduction target amounts to little more than creative accounting, a group of climate change agencies say.

Climate Change minister Tim Groser announced last week New Zealand would cut emissions to 30 per cent below 2005 levels by 2030.

The current target is five per cent below 1990 levels by 2020, and the new target is 11 per cent below those 1990 emission levels.

Analysis undertaken by four NGOs indicates the self-set target is inadequate and "far from doing its fair share" on the global stage.

continued

Clean, green NZ falls behind Australia on climate change

Emission-slashing pledges by countries including the United States have experts questioning if New Zealand's recently-announced climate change target is as fair and ambitious as it was described to be.

Even the carbon tax-scrapping Australians will do more than New Zealand to address climate change.

Australian Prime Minister Tony Abbott, who made an election promise to drop the controversial tax, pledged on Wednesday to cut Australia's greenhouse gases by 20 per cent by 2030, compared to 1990 levels. That contrasts with the 11 per cent below the 1990 target, set by the New Zealand Government last month.

Newly released figures on nine countries and regions show New Zealand's greenhouse gas pledges are the second-weakest. Only Canada will take a less ambitious goal to the United Nations December climate change conference in Paris, according to a table by independent think-tank The Climate Institute.

continued

Are we to blame for climate change? I doubt it

Doug Edmeades is sceptical about climate change being the fault of humans. He presents his reasoning.

On this subject I am a sceptic. And before you throw your toys out of the cot in disgust at my apparent sinfulness, please sit down, face the front and take a big, big relaxing breath.

Let's begin by clarifying the issue. I accept that the Earth's climate changes over time. There are natural cycles of warming and cooling.

The important question to ask is: Do humans have an impact upon these cycles? It is on this point that I am sceptical, in the sense: I am not convinced, based on the evidence, that humans have a practical effect on the natural warming and cooling cycles.

continued

Events aimed at tackling climate change held across NZ

A climate change action group says the public can make a difference, and it's holding events around the country to let people know how.

Keep a Cool World is running an expo at Wellington Girls' College from 2pm, which it says is very much aimed at the general public.

Co-founder Christine Thomson said New Zealand research shows 87 per cent of us feel concerned or very concerned about climate change, but only about 40 per cent feel like anything they can do can make a difference.

continued

Local climate talks beckon positive change

The Australia-New Zealand Climate Change & Business Conference is to be held in Auckland at the end of October. It recognises that governments can address climate change head-on by making policies that reduce emissions and adapt to climate impacts. The conference is designed to connect business and policy makers to teach and share ideas about how to tackle the problems surrounding climate change.

"There have been many forums around the country over the past few years in which businesses and government have engaged one another, but this is an opportunity to do it on a national scale," says Gary Taylor, Executive Director and Chairman of the Environmental Defense Society.

As New Zealand is the host of the conference this year, there will be discussions of the big picture surrounding climate change in New Zealand. There will also be in-depth exploration of the New Zealand Emissions Trading Scheme, which will be compared with carbon pricing responses in Australia. The NZ ETS is being reviewed during 2015 and any changes could potentially be announced by October.

continued

Appendix F

Example of Original Interview Transcript

	are available. I: Mmm. Yeah. Q: So ... um ... who's to blame? Well, number one ... I guess we all are, because we're all so reliant on the very advancements o- and the techno-, and the daily technology that we, that we use, you know, right down to, I mean, transportation and ... um ... I mean, secondly who's to blame I mean if, if things are being withheld that ... really are for the benefit, um, of us, then, then it would be the government and I'm not sure which government that would be [laugh]. I: Mmm. Yeah. So it's believable to you? Climate change in general, are you, where are you sitting with it? You, you take it as what- Q: Um. I: Reality? Or, is there doubt? Is there- Q: I feel like there, there's a mixture of fact and there's a mixture of opinion. I: Yeah. Where, where's the, where's the difference, for you? And how do you know? Q: ... Fact would be ... something concrete like ... like there's been a one, there's been an average of a one degree ... rise in temperature in the last *x years* ... never seen before, or hasn't, hasn't been seen for the last, say, hundred thousand. I: Mmm, mm. Q: And even for the last two hundred years we've had this burning of fossil fuels which, to me that's fact. Um, and opinion would be that ... I'm going to have to think of something here [laugh] ... um ... an opinion would be that ... like e-, like storms and weather systems that are now, that we're now starting to see. I mean how can we know ab-, that it's an opinion that we're relating it to-	

Appendix G

Transcript Notations and Conventions

H.1 Transcription conventions

The following conventions were used in transcribing the audio recordings of the participant interviews.

Given the focus of IPA on the meaning of the content of the participant's account (Smith et al., 2009), there is no requirement to record all disfluencies, filled pauses, emphases, emotional expressions, or partial words. Transcription, therefore, was primarily a semantic record of the spoken word. In addition, however, significant facial expressions, postural features, pauses, and non-verbal utterances such as laughing or grunts were drawn from notes, recall, or the audio and represented by bracketed text in the transcript. Significance was interpreted as either emphasising the spoken word or indicating a meaning not captured in or incongruent with verbal utterances. In documenting these non-verbal aspects, the researcher was able to enhance his understanding of the nuances and intricacy in the participant's account. During transcription, every care was taken to safeguard participant anonymity and confidentiality. To maintain an ethic of anonymity and confidentiality, pseudonyms were used and any contextual descriptors including places, names, or institutions that risked identifying participants or that referred to non-public figures were omitted and marked as such in the transcript or else replaced with bracketed generic descriptors.

The following conventions were used in transcribing the audio recordings of the participant interviews.

...	Long pause
[ ]	Description of significant non-verbal utterance such as laughter or tone

italics	Indicates emphasis
[??]	Inaudible
-	Indicates overlapping talk or words trailing off

The following pseudonyms and initials were used for the participants: Beth (B); Eric (E); Frances (F); Janet (J); Peter (P); and Quinn (Q). Interviewer dialogue is prefaced by the letter I.

H.2 Quotation conventions

In addition to the conventions above, further measures were employed in the use of participant quotations in the body of this thesis in order to improve readability and assist understanding. On occasions, portions of a quotation were removed either where these were considered less relevant to the theme, or if they were speech disfluencies such as repetitions or filled pauses. These removals are indicated by square brackets around an ellipsis [...]. Brief explanatory comments are sometimes added by the researcher, and are contained within square brackets []. In implementing these conventions, care was taken not to alter the essence of the participant's words.

Appendix H

Example of Interview Transcript Analysed with IPA

Conflation of CC with other general degradation	causes so much damage to the environment -	D: Conflict of personal travel
	I: Yeah, yeah.	C: Faced with the challenge of hypocrisy of travel? Calculated risk,
	F: - and even though I do travel overseas a little bit like once every two years, I'm also aware that that's not ideal either. Um,	cognitively minimising own impact? Denial. Soothed by rationalising mitigating steps of airline. Whose responsibility to change? Air NZ's of F's? How does F choose what to prioritise?
Denial through rationalisation	although I know Air New Zealand is working to	L: Repetition of 'I' and 'I've', gathering thoughts
Psychological tension in clash of priorities	try and cut that back, but, um, yeah, I, I just, I	D: Witnessing pollution on travels. A personal experience of climate
Transferring responsibility	mean I've been to Beijing and I've seen, I've	change.
Personal experience	been there on the, the, Moon Festival Day	C: Conflating pollution with climate change
	where you couldn't see the moon 'cos of the	C: Clear anger at the sense of entitlement and self-interest in West.
Conflation of CC with pollution	pollution and I feel very much, very strongly	Climate change is entwined with structural and systemic issues.
	that the Western countries, um, have got this	Protection through blame?
	entitleitis thing about their lifestyle and you	L: 'very strongly', emphasis of emotion through repetition
Climate change as systemic issue	know 'if I can afford it, it's mine' and, um, and	L: Use of entitleitis as metaphor for disease of overconsumption
	then of course now they're saying 'oh we can't	C: F speaks to cultural norms entwined with individualist rights and
	have China upping its standard of living	consumerism. Is this part of F's identity? Does she value simplicity?
	because what about the pollution' and I find	L: 'They' and 'they're' used as oppositional framing. F sets herself apart.
Climate change as emotional trigger	that really hypocritical.	C: Anger at injustice of climate geopolitics.
	I: Mm-hmm.	D: West is hypocritical.
	F: Yeah, I think I'm getting a little bit away	C: Two faced for developed nations to reject the progress in developing
	from the question.	nations. A justice issue - equitable distribution of climate responsibility.
	I: No, no, no, not at all. That's exactly the stuff	Fairness key value for F? Is this entitleitis an overarching framework for F
	I need. What, what about the consequences?	which climate merely fits into?
	What...what...	
Consequences of climate change	F: Oh, it's *death*. [laugh]...	D: Consequence of climate change is death.
Perceptions of risk	I: [laugh] The big one.	C: One's own death? Is F feeling powerless?
	F: ... I mean it's just a case, yeah, and I, it's just	L: 'it's death' Laughter as black humour, relieving discomfort
	a case of how long, and I think that I feel, I	C: CC consequence as extinction. Strong belief that CC will severely impact
	want to be optimistic but I actually, a lot of me	humanity.
Pessimism for future	is really pessimistic because, um, like I've	L: 'I think that I feel' – hesitancy about optimism. 'I think', 'I want' –
Powerless	worked with people all my life as a teacher	conflicted identity of pessimism/optimism. C: Protecting herself?
	and, um, and, all sorts of other roles as well	D: Pessimistic because roles show F that people have limited foresight
	but I notice that in general, um, many people	C: Identity as teacher, experiences people as unable to do what's needed.
	can't, aren't good at planning their own	Values planning, rational thought?
	futures in terms of where they want to be in	L: Repeated use of 'they', othering people. Positioning herself as the
	five years or ten years, they tend not to think	opposite.
	like that and we're asking people to think	C: Is this a frame of F's unique insight a way of coping? A way of
Cognitive management	about, um, not just themselves in five or ten	maintaining distance, a way of feeling power in light of powerlessness?

Appendix I

Human Ethics Committee Consent

MASSEY UNIVERSITY
ALBANY

3 August 2015

Ross Allan
[redacted]

Dear Ross

Re: Understanding New Zealand Public opinion on climate change

Thank you for your Low Risk Notification which was received on 3 August 2015.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

You are reminded that staff researchers and supervisors are fully responsible for ensuring that the information in the low risk notification has met the requirements and guidelines for submission of a low risk notification.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

> *"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.*
>
> *If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director (Research Ethics), telephone 06 356 9099, extn 86015, e-mail humanethics@massey.ac.nz".*

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

B T Finch.

Brian T Finch (Dr)
Chair, Human Ethics Chairs' Committee and
Director (Research Ethics)

cc Associate Professor Grant Duncan
School of People, Environment and Planning
Albany Campus

Dr Allanah Ryan
Head of School of People, Environment and Planning
Palmerston North Campus

Massey University Human Ethics Committee
Accredited by the Health Research Council

Appendix J

Quality and Validity Procedures

A range of procedures were undertaken throughout the research process to improve the quality and validity of the study. These were guided by Lucy Yardley's (2000) principles and supplemented by steps aimed at facilitating the transferability of the study's findings. The measures are discussed below.

Yardley's (2000) first principle is sensitivity to context. Firstly, then, the researcher concurs with Smith et al (2009) that the perceived need for context-sensitivity can drive the very selection of IPA as a methodological approach given its attentiveness to the idiographic and the particular. This was the case in this study, given, traditional methods of polling public opinion are unable, as political ethnographer Walsh (2009, p. 169) asserted, to depict "how respondents *interpret* the issues they are asked to express opinions about". Secondly, sensitivity to context was demonstrated through developing an extensive awareness of the relevant literature, both substantive and theoretical. Providing orientation to the study, the researcher read and synthesised a broad sampling of the literature concerning public opinion research, the perceptions and attitudes about climate change, the politics of climate change, as well as the philosophical underpinnings of this material. This literature is referenced particularly in Chapter 2 and in relation to the discussion on the study's findings in Chapter 4. Thirdly, following Yardley (2000), the researcher was attentive to the power asymmetry in the process of data collection and the influences of differing researcher-participant socio-cultural contexts and positionalities (including aspects such as preconceptions, potential agenda conflicts, and identity constructs including gender, socioeconomic status, and ethnicity). Several strategies were undertaken in this respect prior to, during, and after

interviews including the use of open ended questions, building trust and maintaining a positive rapport through selective self-disclosure, responding to any interpersonal difficulties, and recording reflections in the research journal. Fourthly, following Smith et al (2009), sensitivity to the this raw data was shown through systematic analysis, through the inclusion of numerous verbatim excerpts from participant accounts in this report to facilitate the assessment of interpretations, and by being judicious with any generalised claims.

The second principle is commitment and rigour (Yardley, 2000). Firstly, then, as a demonstration of both aspects of this principle, careful attention was given to the interview process. Combining previous experience as an interviewer in his professional role with further examination of relevant literature to bolster the competence already gained, the researcher was cognisant of each interview as an interpersonal experience that demanded a range of skills and sensitivities in order to capture quality in-depth stories. These included building rapport while maintaining distance, consistent probing, active listening, dynamic questioning, and attentiveness to cues. Further relevant details about the process are presented in section 3.2.6. Focused on analysis, the second step also addressed both elements to the principle. This was illustrated through in-depth systematic idiographic engagement and a focus on interpretation rather than simply description. In this vein, the researcher completed all transcription himself, listened to each account, and read and reread transcripts to achieve immersion in the data, and then followed a series of analytic steps (see section 3.2.7) to draw out the themes in each participant's story and the connections between them, and ground the analytic claims in the data. Moreover, following the recommendation of Smith et al. (2009), the researcher

took care in the presentation of findings both to support themes with excerpts from a number of participants and to achieve a balance of contributions in the overall narrative.

Yardley's (2000) third principle is transparency and coherence. In addressing transparency, the researcher kept detailed notes about the selection of participants, the construction of the interview schedule, and the analysis procedures, then expressed and rationalised these procedures in the report. Furthermore, through the maintenance of a reflexive journal during the research process, significant details concerning the researcher's rationale in conducting the research were articulated along with an analysis of how the researcher's pertinent assumptions, preconceptions, and experiences may have influenced the data and findings. Thirdly, the researcher was conscious to include sufficient excerpts from the data and thematic detail to allow the reader to understand and evaluate the basis for the study's analytic interpretations. In regard to coherence, careful thought was given to developing a logical fit between the elements of the research design, which, informed by Crotty (1998) entailed a iterative process of research, critical reflection and evaluation, moving from the philosophical paradigm to the overarching methodological approach to the methods of data collection and analysis. Secondly, following Smith et al. (2009), the researcher attempted to identify with and adopt the perspective of the reader during the drafting and redrafting process of this report. Beyond developing a clear structure with concise and coherent argumentation, and logical thematic organisation, this entailed considering the intended audience and their knowledge levels and demands.

The fourth principle offered by Yardley (2000) is impact and importance. This principal guided the researcher throughout the study in several respects: first, in forming a praxis-based or action-oriented research problem that sought to open up fresh

understanding of the interplay of meaning and behaviour; in adopting a broader discursive, behavioural and socio-culturally embedded conception of public opinion in contrast to the conventional and rather restrictive notion as an aggregate of individual attitudes; in selecting a phenomenological method that offered the potential for deeper understandings than the common survey approach; and in being cognisant of the needs of its intended audiences of public opinion researchers and climate change communicators when articulating and discussing the findings. Climate change is one of the most serious issues facing humanity and achieving greater understanding of the dynamics of public opinion and its connection to behaviour is crucial to attitudinal change and individual and institutional action. It is both in this context and in illustrating alternative routes to explore public opinion that the study seeks to be of utility.

In addition to Yardley's four principles, the study also adopted transferability as an assessment criterion. In this regard, the strategies instituted to build transparency and sensitivity to context were key. Thus a clear account of the research process was maintained and articulated. Care was taken to provide contextual detail about the participants and to situate them in respect of extant literature. Finally, rich verbatim quotes were used to support sufficient and thorough interpretations.

Appendix K

Table of Themes and Subthemes for Entire Sample

SUPERORDINATE THEME	SUBORDINATE THEME	PARTICIPANT					
		B	E	F	J	P	Q
1. Climate change as a physical process	1.1 The science	✓	✓	✓	✓	✓	✓
	1.2 Personal experience and other sources	✓	✓	✓	✓	✓	✓
2. Climate change as a sociocultural story	2.1 You can't trust them	✓	✓	✓	✓	✓	✓
	2.2 Human and systemic failings	✓	✓	✓	✓		✓
3. Climate change as a personal story	3.1 Negative emotions	✓	✓	✓	✓		✓
	3.2 Denial	✓	✓	✓	✓	✓	✓
4. Climate change as a call to action	4.1 Responsibility	✓	✓	✓	✓	✓	
	4.2 Policies and practices	✓	✓	✓	✓	✓	✓
	4.3 Barriers and motivations	✓	✓	✓	✓	✓	✓

Appendix L

Themes and Subthemes with Full Excerpts for Entire Sample

This appendix provides extended and additional quotations from the participant accounts. Quotations are grouped according to the study's thematic findings.

Superordinate Theme One: Climate change as a Physical Process

Subordinate theme one: The science

"Well, basically they're saying that the fossil fuels, the burning of the fossil fuels, has caused, is causing, and pollution and everything is causing the, um, you know, the, the, the, the, the melting down, the temperatures to rise around the world and the um, you know, all the poles are going to melt and then the *seas* are going to rise and there's going to be *storms* and there's going to be *hurricanes* and there's going to be *droughts* and there's going to be *chaos*, and, *all* this carry on, right? So it's *fear*." [Beth]

"Like the book says, we're actually in a cooling period, which is a natural cycle of the whole thing and they try to gag anybody that says, that puts out reports that, you know, the, um, scientists, a lot of scientists now have actually, um, jumped on to the, you know, realised that they got on the bandwagon too soon and they realised it was a whole lot of claptrap." [Beth]

"Um, well the sea rising because the, th-, th-, the, you know, the poles are going to disappear. Um, oh, all the horrendous, um, hurricanes and storms and there's gonna be *massive* populations wiped out because of all these horrendous ... climate conditions, and. You know, it's all, it's all, negative isn't it. [laugh]. [...] And *we* are the guilty ones 'cos we drive our *cars* and we burn the *fossil fuels* and hhh, aw my god." [Beth]

"I just think it's been like that, the Earth, as I said, the Earth's been here for billions of years. How many of us have been here for more than a hundred? [laugh] What do we

know! [laugh] You know, scientists can do the studies. Let's just go by what the scientists reveal w- that's actual fact. This is all part of the cycle of the Mother Earth's cycle, you know." [Beth]

"[...] ah, yeah, maybe we, we, if we didn't *burn* fossil fuels we may slow down .. the freeze." [Eric]

"We gotta try and-. *We*, we are the *cause* of the ozone ... is it .. a- y- yeah, the, what do they call that bloody hole? [Eric]

"The ozone layer? Yeah." [Interviewer]

"Yeah. We've, we've caused that with our bloody s- aero- aerosol cans." [Eric]

"Well, climate change, yeah. It is fa- fossil fuels all the cars we've got on the road." [Eric]

"Sea, sea level, land. A lot of *islands* are only just a couple of metres above sea level. They can't afford to have the seas rise up any more." [Eric]

"*But then*, is it through fossil fuels or is it just nature's-, see we're, we're on an axis, we tw- turn. We're not stable, we, we wobble. Yeah, I got a feeling that sometime, we, this, this planet has, *has* switched over, has turned over and I think it's going to do it *again*. Is it caused through man? *No*, I don't think it is, it's just ... this planet." [Eric]

"It's it's nat- nature *and* manmade." [Eric]

"Aw, if fault... you gotta put it down to the multinationals. They're, they're more interested in, in, in, in, in the, in the money, the power and the money rather than-." [Eric]

"It's coming. I think I w- as I was just say- trying to say there now, I got a feeling we, we *are* on the verge now of the s- of our planet *tilting*, another big flood.

"Mm. Mm. How close?" [Interviewer]

"Don't know. I want to live for another seventy five years so I hope it doesn't happen in the n- next seventy five *years*. But *no*, it is close. But then i- in saying how close .. y- yeah, the sun's going to burn. That's close as well, the sun's going to explode [claps hands] or im- whatever you call it, it goes inwards. That's going to happen. But, *when*. Not for quite a while." [Eric]

"We, we need and if it starts then, then the ice a- age will come. Is it *manmade*? Could be fifty-fifty. It could be sixty-forty. [Eric]

"OK. Um, I understand climate change is significant and ... hhh, long term issues to do with in so- where, where, the basic, um, global patterns which are determined, like our wind patterns and precipitation and things, for many hundreds and thousands of years, all that's changing gradually and, um, I see the change as part of the, the, general environmental damage that we're doing to our globe through our lifestyles and our *dumb belief* that we can do more and more and more consumption, um, and that that's not going to have any implications in terms of the globe, the planet." [Frances]

"Um, well I know, well I, well, my understanding is that in New Zealand it's, um, to do with our, our, our, um, you know, so many cows and everything with their farting and burping, um, our use of roads and that sort of thing, but I, I, also have seen figures about, um, like a military plane hovering over [laugh] the Middle East or whatever you- causes so much damage to the environment [...]." [Frances]

"Oh, it's *death*." [Frances]

"Um, yeah, well I've seen about the melting of, you know, the ice caps and rising of sea levels and, you know, all that stuff but those details, I actually, I don't, I don't go there too much because I find that really frightening and I don't, I think it's counterproductive, for me anyway, to actually get too much into the science of it." [Frances]

"Yeah. I mean there's the whole, the whole break down of the whole, um, ecosystems and the way the Earth has always, um, worked for human beings in terms of, um, you know, animal life, plant life and the way all that interact and the way it impacts on our food supplies, and um, all that, there, there are those whole things to do with, um, yeah, the actual, like, environmental impacts but that's, hhh, hhh, ... I'm also *really* aware of the, the geopolitical, kind of, implications of that and ... already, um, you know there's Pacific Islands where the pris- rising sea level, but, but, who is it affecting? It's affecting the poor and so, I just, um, already, um, I see wealthy nations, like the US of A [motions finger down throat], vomit, vomit, [laugh] just in case it's not recorded [??]." [Frances]

"Um, from what I understand ... even scientists can't agree on that and that it's constantly changing and it seems to me just, as a non-scientist observer, that, um, [cough], recent knowledge seems to be saying we've actually got a bit less time than we thought we had, but lots of people don't believe that, it's an inconvenient truth. Um, in terms of, um [cough], in terms of my own understanding, um, it's not *if* anymore it's when. The whens are as unknown, in terms of the when, whether its ten years time, or twenty years time or a hundred years time, I want to do what I can and live responsibly no matter what the, so it actually doesn't, I don't wake up in the morning and check that the sea isn't lapping around my section [laugh]." [Frances]

"Alright, so I understand, ehm, from a, sorry, scientific background that, ehm ... some of the change to the climate may be to do with what would happen anyway and some of its to do with human activity or human, eh, ehm, development. And so that basically the climate as it is just now of the planet is changing." [Janet].

"I'm not really sure exactly what bits of it are to do with us and what bits are to do with natural evolution of the climate anyway, ehm, and that there are two camps, one seems to be very sure that it's human activity and one seems to very sure that it's *not* and, ehm, there's signs to back up both sides, I guess." [Janet]

"The causes of it would be, ehm, so we have fossil fuel use and carbon emissions. Ehm, consequences would be that we're limiting the future of the planet as a place that's sustainable to, to live for our species and other species." [Janet]

"I think there's pretty strong evidence to say that *we* are pushing it. Whether we are acting as just a, ehm, like, you know, we're speeding it up, whether we're acting in that regard or whether we actually are the original cause of it and the original driver of it, I'm not sure, I think, there's a lot of evidence to say we are to blame, as it were, yeah." [Janet]

"Loss of habitat, and, and loss of species within those habitat - loss of diversity." [Janet]

"Poor atmosphere so, ehm, having an unclean atmosphere that's smoggy or polluted or, ehm, not, not healthy. Um, if you go travelling not being able to see the beautiful clear waters or the, ehm, forest and the, you know, biodiversity webs that you would otherwise see. Ehm, having an ability to grow food or grow other types of, ehm, eh, plant life because there isn't space to plant them or the fertility in the soil left to do that. Ehm, climate change in t- in terms of, like, sea levels rising and are the places that we've bought as houses still [laugh] going to exist or, you know, how will it change our ability to move between places or to, ehm, you know, have the, the links for tr- lorries and things over the, over the land to get where they need to go, 'cos there may not be those links anymore. Ehm, aw, is it going to start costing money to fly places because of

m-, you know, a lot more money or tax we put on the carbon footprint, that sort of thing." [Janet]

"Exactly. I think it will affect *all* of us, definitely. I think I would ... so directly I'd see it affecting my work because farmers might n- not be able to grow grass to feed the cows to produce milk and I therefore wouldn't have a job [laugh] 'cos they wouldn't need a v- a vet, you know. Ehm, in terms of affecting ... my family and them growing up, what about, you know, would they were to go and *see* the wonder of nature, would they be able to go and experience things that we grew up with a- and took for granted. Ehm, in terms of New Zealand, and we, our, our biggest industries are tourism and agriculture. You know it would definitely effect those things if we couldn't have grass growing or crops growing and we couldn't, ehm, have beautiful places for our tourists to come and look at, so, it'd effect that." [Janet]

"I think it's my children and their children that it would affect. I don't know that it would necessarily affect me, because by the time things start [laugh] falling to bits I'll be old and senile [laugh] and not particularly bothered or aware of it hopefully." [Janet]

"Do you see climate change as happening *now*?" [Interviewer]

"Yeah, I think it's happening now. But I don't think that our, I don't think the n- the end result or the many of the end results will affect us as this generation. I think it will be the next generation. I think, yeah. All it will affect us now is that the politics around it will *change* and the intensity of our relation to it will change so that we may start, ehm, paying for, or being privy to the ... cost of it, I suppose, and to having a say in how we change what might be the future, but I don't think. You know, if things keep going as they are then it won't, I don't think it affects us, I think it affects our children." [Janet]

"Um, it is ... related with the ... oh, I forgot the English word, but this the ... *heat* of the *sun* going through the, our atmosphere, and, ah ... heating the, the Earth. Because when the, the rise of the sun go back to the sky like, with the Earth acting like a *mirror*, our atmosphere because of the pollution acts as a mirror too. So, since both are acting like a *mirror*, ah, the rise *stays* in, in the Earth and they come to the Earth more times than they should because of the pollution. So the Earth is changing its climate, its, er, temperature." [Peter]

"The only thing I could say is, is, probably ... er, giving us trouble with ... agriculture. Because probably seeds won't grow the *same* in different temperature of Earth but, after that I don't know anything." [Peter]

"I'm pretty sure the blame is from the pollution and human, people are the makers of pollution. And if we go more specific, ah, if I had to decide between, ah, normal human and industries or companies, I would say ... I don't know. [laugh]. I don't really know, ah. If I had to decide between those I, I not sure which one is the, the one who, er, contaminates more." [Peter]

"I do believe that Earth have been changing, the climate in, over time by itself .. but not that *much*. Ah, people who believe that are just, I don't know, ... yeah, it's not like ... I, I don't know if you can *prove* that the Earth is changing climate 'cos of us. Ah, I believe that it is. I, I cannot prove it. So I cannot tell this guy he is wrong because I cannot prove it, but it's what I believe." [Peter]

"My understanding is that the industrial revolution has contributed to the amount of carbon dioxide in the atmosphere, and the higher levels of that traps in particles and are creating a temperature rise across the globe. And I think that it's I know that there, there have been fluctuations obviously in, in the lifespan of the Earth but that there's been a

marked increase that corresponds with human activity over the past, I guess, maybe fifty, fifty years but, yeah, directly corresponding to, you know, industry." [Quinn]

"Ah, I know a bit about it, so ... one would be ... the melting ... ice caps. And the rising sea levels. Um ... volatile weather patterns. Mainly coastal. Um ... increase in ... fires? Perhaps." [Quinn]

"Um, I'm not sure what it does for ozone, our ozone layers." [Quinn]

"Um, the other thing is ... like respiratory diseases and things 'cos I know in China like I've been in China and seen the quality of the air and the smog there. I notice that, um ... doesn't feel too good." [Quinn]

"I'm, you know what, I'm not [laugh]. Well, I think that if it's corresponding to ... health, like, if it's detrimen-, if it's been detrimental to human health, and I think that if, like as, as a species we are up against, it's part of our, like, biology to be up against, like, radical-, like, free radicals and toxins and things. And, we develop immunity towards these things but, um ... if it, yeah, if, if more people are suffering from, from lung cancer then it's a, they can link it then, you know, I think we need to start paying attention to quality of health and life." [Quinn]

"Um ... threats. Species loss. In nature." [Quinn]

"Um, yeah, well the next thing will be, like, the loss of, like, diversity." [Quinn]

"What are the threats that you see to New Zealand? ... Bringing it closer to home. [Interviewer]

"Fracking [laugh]". [Quinn]

"We're all- we're all, we're all intrinsically linked. And I think that ... it feels far away but it actually ... on a *connected* kind of level, an emotional, like, planetary level, like, it, this all feeds back into, like, the, the consciousness of the planet and the, and the f-,

and the feelings that are circulating and I think we *all* feel them to certain d- degrees." [Quinn]

"In, in, in timescale. Are they, are they next year? Are they now? Are they-" [Interviewer]

"It's now." [Quinn]

"Oh, here's some other threats, actually. Destabilisation of, um, like on a global s-, ok, on a global scale, like destabilisation of ... countries." [Quinn]

"Um... I mean climate change is really just, it's *pollution*, *really*, is what it *is*, so ... you know, images of oil spills and ... marine mammals [laugh] with plastic in their stomachs, and things having, six pack, like, [laugh] beer bottle, [laugh] I mean, beer can, you know, um, plastic around their necks. Um ..." [Quinn]

"I think it would've been like *Campbell Live* or something where they were looking at the health of our waterways, um ... I think there's been ... I mean if that relates to climate change, I mean that *is* climate change, that, that's part of it isn't it? You know, the health, they're very - environment that we-." [Quinn]

"So ... um ... who's to blame? Well, number one ... I guess we all are, because we're all so reliant on the very advancements o- and the techno-, and the daily technology that we, that we use, you know, right down to, I mean, transportation and ... um ... I mean, secondly who's to blame I mean if, if things are being withheld that ... really are for the benefit, um, of us, then, then it would be the government and I'm not sure which government that would be [laugh]. [...] I feel like there, there's a mixture of fact and there's a mixture of opinion." [Quinn]

"I think there are natural warming and cooling cycles ... but I think we've accelerated *a* cycle." [Quinn]

Subordinate theme two: Personal experience and other sources

"And ... personally, I didn't think that there was anything going on with climate change because, you know, the Earth is always changing anyway and it's like everything, day and night, you know, everything goes in cycles, summer, autumn, winter and the Earth's been around a lot longer than, than any of us have that are living on it and it's still here. So, you know, it must be in balance in some way. I couldn't understand how just, how cars and, you know, the, the world is a big place, it's been around a long time, and I couldn't understand how it could suddenly all be coming to an end. And, aw, suddenly we have to pay all these taxes to save the world from coming to an end, and I, it, it just didn't add up to me, so that's why I started [leafs through David Icke book] looking at different theories and things." [Beth]

"An Inconvenient Truth, yeah. 'Cos I saw that, and that was, like, oh my god, fear of, put the fear of god in me, you know. And that, that sort of started it." [Beth]

"Well, I used to look out at the sea all the time and beaches that I'd gone to for years and years, all my life, and think I can't see the sea levels going up [laugh]. They haven't changed." [...] "And in fact, I felt the temperatures were getting cooler." [Beth]

"And, in this book, which is called *Perception Deception* by David Icke, um, he's got this chapter here [has book open to chapter on table] called *Climate Claptrap* and, basically what he is saying is that, it is a lot of garbage." [Beth]

"I just, I just know that the planet is a-. Go back, I came to New Zealand in 1967. I can remember Septembers, May, June, July ... yeah, May .. June, July, August, September, *yeah*, I can remember May .. being quite warm, May. June, July and August used to be *freezing*, absolutely freezing. My children were born in those three months. That's how I can remember. Going to the hospital to see my wife in hospital. I didn't have a car then.

I used to bloody freeze my *balls* off catching the bus. But May could be a *nice day*. And then in summer, September, I actually I bought a prob- property up in, ah, the Waitakeres .. and it was a September and I was doing, it was half-acre, I had a nice place up there. It was so bloody warm I went and bought a swimming pool. .. Because it's so warm. Then from that basic, from then, Septembers have been bloody cold and Mays have been cold. But going back you used to get these nice warm Mays and nice warm Septembers. You, your summers seemed to be longer. Days seemed to be shorter. But June, July and August are *not* as cold as they used to be. Unless I haven't got tougher. But they're not-" [Eric]

"[laugh] Yeah. You've noticed, you've noticed a real change." [Interviewer]

"Yeah, yeah." [Eric]

"I'll go by .. I know in S- in October, I used to have fruit trees, winds come in October, they came again, we've had the winds now, this is October, you get the winds which blows the blossoms off the trees. *Notice*, I grew, I used to be a keen gardener. It's only since I started doing the markets I've, I've got rid of me gardens, well [E's partner's name], I got rid of [E's partner's name] gardens [laugh]. I turned all her lawn into garden, but I'm not there so she moans so I had to go round and get rid of them [laugh]." [Eric]

"She says, I'm not going to look after it [laugh]." [Interviewer]

"Aw, no 'cos I had, all her front lawn. Had *miles* of gardens. So, yeah, I've left her one bed in the centre, which she now turned into a flower garden. It only takes me thirty minutes to whip, mow her lawns. It used to take me two hours going round all the gardens [laugh]. But yeah, that's how I *know*, by what, what I used to grow in doing my vegetables I *knew* .. how the weather had changed." [Eric]

"Yeah. So you've *witnessed* it." [Interviewer]

"Yeah, yeah. I knew I was going to lose all my blossoms in October 'cos that's when I got all me flowers and the bloody winds come along. [Eric]

"Um, although I know Air New Zealand is working to try and cut that back, but, um, yeah, I, I just, I mean I've been to Beijing and I've seen, I've been there on the, the, Moon Festival Day where you couldn't see the moon 'cos of the pollution [...]." [Frances]

"Um, well that university work at Victoria all those years ago ... caused me to notice more stuff I think and, um, I mean I'm basically, I've always, um, been drawn to the whole idea of the simple lifestyle [...]. Yeah, so it's been, it's been a long, long ongoing thing. Yeah, and I mean I read the newspapers because that's part of my job, I read, um, a lot of stuff. I, um, talk to lots of people, um. [Frances]

"From newspapers, from online articles, from the news, from discussion with other friends, em, people in at university or, you know, just general chat chit-chat. Ehm, yeah. I'm also, well I work in the agricultural industry so I hear about, ehm, effluent and, ehm, well, farting cows [laugh] and, you know, all that sort of stuff is part of our, not daily, but probably, weekly discussions, we really talk about that sort of stuff." [Janet]

"I don't remember the last time I- but I'm pretty sure it came up because, you know, I remember my, my biolotic- biology teacher speaking about that and we speaking i- for the *test*, I remember that that was probably ... *thirteen* years ago." [Peter]

"Ah, mainly my school. Ah, they teach us about this *effect*." [Peter]

"Well it's I, I having hearing, as I told you, like, thirteen years ago, hearing about this for the first time so, yeah, it's happening now. But since we don't see the problems on the TV or, or then come on websites, probab-, it's probably not that big yet." [Peter]

"Um, the other thing is ... like respiratory diseases and things 'cos I know in China like I've been in China and seen the quality of the air and the smog there. I notice that, um ... doesn't feel too good. I sort of noticed it, like ... yeah ... pretty directly when I was there, like I, just the feeling that I had from coming from this environment going, going over there and actually not been that well myself at the time, it really ... was something that I, yeah, it's not very nice." [Quinn]

"I mean, I probably don't read the news as much as I, as much as many other people do. I tend to listen to the radio a lot and I just ... but I ... in that space I multi-task so my, you know, I'm picking up b- bits and pieces here and there. Um ..." [Quinn]

"Um, I listen to a *lot,* um, but last year I was listening to a lot of, um, that one with Sean Plunket, that station. For the last, like, three months, *straight*, four months straight I've listened to National Radio every day." [Quinn]

"It's either, like, word of *mouth* and then I'll find, like, the source, like, I- I'll find that specific documentary that's been recommended or it's sa- or I'll see it on social media or something and then, like, that ... particular site that I source that documentary from will then also give me, like, access to other documentaries." [Quinn]

Superordinate Theme Two: Climate Change as a Sociocultural Story

Subordinate theme one: You can't trust them

"Why is this, why are we suddenly being taxed?" [Beth]

"Because, it all comes down to money." [Beth]

"And then, they're saying, right, we're going to tax you so that you don't, so, so that, we, look, see they, they create, part of their whole process of these people, is that they create a problem, then they come up with the solution, right, and it's all f- for their own agenda at the end of the day." [Beth]

"Who's agenda?" [Interviewer]

"Well, it's the one percent. It's the Rothschilds, the Rockefellers, the, all this, all these one percent that have got all the wealth. And this is just another way for them-

"Ooo, I see." [Interviewer]

"The more people are taxed, the more the average, the middle class is taxed, right, the middle class hold up most of the economies. The more the middle class are taxed that – i.e. the more money you drag out of them and turn them into slaves, the more taxes you can create, the more money the one percent make." [Beth]

"And, and, ehhh, but, um, the media gags it. They gag, they gag the reports, they, and they manipulate what they tell you. You know, they'll, they'll say if the temperature, 'oh, there's a, there's a drought over here and the temperatures are der-der-der'. But if, if there's somewhere that's particularly cold they don't report that part of it." [Beth]

"Well, apparently *he* discovered, I can't even remember, 1920s is it, or *earlier*, 1900s, early, that, you know, um, h-, h-, how to, create energy, free energy. But all that was suppressed. It's all suppressed technology." [Beth]

"That's all covered in there. That *free* t-, free, free energy is *out* there. So if the free ene-, free energy and the technology is there, like, that was discovered in the late, what late 1800s or early, or early 1900s, then *imagine* what that technology, how amazing that would be today. I mean we'd have, all have free power in our homes. We'd all have, be driving around in cars that didn't need any, any, ah, fossil fuels. You know, if they're so concerned about climate change why don't they bring on the free technologies." [Beth]

"Um, as for global warming, *yes*, it could be our fossil fuels. We don't need to dig gol-, ah, coal anymore, we don't really need to go after *oil* anymore. We can, we can run all

our vehicles. The multinationals will not give away their, their oil. *Not* until it actually runs out." [Eric]

"Amm ... I'm not a fan of the multinationals, the way they-. They, they, can actually stop, we could go, we can use the ocean to make power, we can use- ... we don't need to build dams, there's, we got win- wind mills now, there's other ways of, of getting need and the power we need." [Eric]

"Yeah. Our governments, *look*, I told you, I worked twenty years with the government. ... They're only interested in themselves. *We* had *one* good prime minister, and I, and I, and I, that's who I started wor- work with, was *Norm Kirk*. That's the only prime minister we've ever had ... that actually cared." [Eric]

"Yeah, make a difference. We *can* by cutting our, our fo- fossil fuels. If the- if, if, *yeah*, do I, do I trust the governments? *No*. If they *were* concerned, they would say OK, bugger, bugger the cost, we'll just do it." [Eric]

"But what bugs me is that politicians, they are only interested, this is, *many* of them, are only interested in what will happen in their political future, in the next three, five years, and so lots of problems, you need to take a far longer view than that and I, I suspect that John Key isn't driven by, you know, climate change and doing the right thing for the, for what New Zealand will be like in even thirty years' time or I suspect not even ten years time 'cos he'll be out of politics by then, and he'll be able to choose which of his many houses he lives in, one that's above sea level and, um." [Frances]

"Why, why do you think he ... *is* in that place or *can* be in that place." [Interviewer]

"Where he denies. [Frances]

"Yeah. What, what, keeps him there? [Interviewer]

"'Cos he's a pragmatist, and the world that he has lived in, um ..., it's, it's, hhh, it's quite an amoral world. I don't, I don't think that you can actually be an investment banker for a lot of your life and have much sense of, of justice or global inequality or much sense that, you've got a chance to *really* contribute something *really* worthwhile to the human race [...] but, hhh, when push comes to shove, it's, it's not a worldview that's, to me anyway, particularly, um, compassionate, and I, I mean I obviously, I come from that Christian framework where the idea of laying down your life for your friends is really, um, *really* essential and important and, with climate change and global inequality, um, if your, hhh, if your f- sort of way of understanding life is that, which seem to b-, which is a lot of these sorts of, in these, this sort of level of society where, you know, you're working in, like, say, say for example the finance sector, if your philosophy of life is that 'if everyone just works hard and tries hard, um, and, you know, life will turn out well and that you can just um, you know, you've worked hard so you're entitled to this lifestyle, um, you've, you've really, um, you know, taken more risks than other people, you've, um, sure you've perhaps been a bit lucky but it's mainly because you've done the right things that you're in this, um, highly privileged position, and you only mix with people who are also highly privileged, you can't a single poor person, you don't really believe that they exist because, um, you know, they're just lazy and um, you know, John Key came from a state house background – *oh my word*, all that kind of stuff, so, so, you actually, i-, i-, for all of us, we only ever mix with people who are like us, it just reinforces our worldviews and that's a *real* concern, and, and that's part of you know the way we live now as New Zealanders, we, it seems to me that, you know, the wealthy, it's not that they're evil people, they're just *ignorant*, and they *genuinely*, they *genuinely*

don't know there are families who, um, are just *struggling* to feed their kids and, um, yeah, it's, it's, yeah and that's, yeah." [Frances]

"I, I think they talk about it when it becomes, ah, a wave of public concern that then they feel they should do something [taps table] about because it'll effect their next course of, you know, their ability to be in power. Like Obama suddenly having an a, ah, an idea about it. That's become around because he's had waves of ehm, politic-, ehm, public concern, I don't think [laugh] it's been on his agenda before this. And certainly they wouldn't, you know, I remember when, so my, my Dad works in LA and I remember when he moved there, there was *absolutely* no *idea* about climate change or, ah, assigning a relation to the public about it, and they all were driving these *huge* cars and, you know, petrol's really cheap over there and all the rest of it, but Dad, and I, I noticed as *well*, he's saying now a lot of guys have electric cars and smaller cars and talk about climate change as a thing that effects them, so there has been a change. Ehm, but Obama has a fairly, ehm, you know, personable sort of guy, I reckon, that'll really help. ... But I don't really listen to politic- politicians much [laugh] [taps table]. Not particularly, it's not my kettle of fish. I would *much* more rather listen to scientists or, ehm, friends and personal, you know, associate rather than. I don't read *anything* political. I don't particularly watch the news [laugh]." [Janet]

"Ehm, so, from my scientific background, I would trust something that's been peer reviewed. Ehm, and that has, er, n- no, no *bias* about it. I'm not sure that's why, I think that's why I don't trust the news [laugh] like it's not necessarily non-biased. Ehm, where I trust? I trust articles that come from a *journal* or from a, you know, a science background. Ehm, or if there's been a generation of discussion with lots of people

putting into it. Just, like, a normal broad sheet newspaper I probably wouldn't trust or, yeah." [Janet]

"In terms of what you're, going back to the beginning of our talk, of what's *informed* what you know, has it been journal articles? Has it been refereed material? [Interviewer]

"Yeah, stuff like that, yeah. It's been from ... proper material background, I'd say. Er, I don't general look at media, soc- certainly not social media stuff. I don't think that's, it's just crap [laugh]." [Janet]

"It doesn't matter what government I think *every* government it's is just *bad* and I hate politicians, sorry, you are going to be in politics." [Peter]

"[A]nyway, ah, same thing with, the Chilean newspapers and TV, I don't believe them. Ah, because they all, ah, belong to the same person. Ah, the person who rules the seas on Chile, the person who doesn't *want* the energy source, ah, change so anything that comes from the *newspaper* are pretty much, ah, convenient things for those people." [Peter]

"That's why I, I choose to believe in what I, I what I investigate on comes from lots of sources." [Peter]

"Hhh, well, going back to the news I mean I know that essentially ... like our ma- our mainstream media is run by, like, it's sort of owned by, like, two ... major, like, or parent companies. So ... I am aware of this. And I think too-" [Quinn]

"Does that go down – do you mean to how trustworthy the information is? Yeah. How trustworthy is it?" [Interviewer]

"I would say ... [laugh] I'd say it's fifty-fifty. 'Cos I think that, like, you still get people who are, say, academics who will put th- out their point of view through v-, you know, these various sources - but, um ... I'm not sure how much of it gets ... sort of what's the

word ... I'm not how much of it makes it through. You know, if they're wanting to push like one sup-, one viewpoint more than another and just allowing, like, a certain amount of other voices just to give the perception of, like, a balanced debate." [Quinn]

"OK [laugh]. So, I, I mean I do wonder if there have been certain ... technologies that would advance ... our species, our civilisation that have been suppressed because we've got pretty big interests. Um ... I kinda feel like behind the scenes politics is like a game of, like, it's a crony game, like ... money speaks. You get lobbied, you I mean you lobbied by ma- *massive* interests and business interests, corporate interests, and I think this is not really a secret to anyone anymore with the amounts of like documentaries and things that are available. [Quinn]

"And it's kind of always seems like it's, I'm not sure if it's ... like, slanted this way in the media but it kind of feels like it's government against [laugh], like, like, the local people." [Quinn]

"Ohh, that's kind of *hard*, because I feel like that sometimes *too*. Because my, when you go back to, to earlier when we were talking about what policies can we, I mean you've got the housing, you've got ... I mean I'm v-, like, really concerned with, like, health and wellbeing but then, um, I feel like, [family member comes in the door] I feel like, um, like, fossil fuels which is probably about the greatest contributor, the most detrimental is, like, um, like what, what can we do if don't know about the new technologies. Like if the government isn't in our interest and they're not releasing ... I mean the *greater* government, the world government, is not releasing things that .. could be in our interests then of course we're in the dark and we don't, we *don't* know." [Quinn]

"Yeah. I'm distrustful that pe- these people that ... are running the country, I mean, I- I'm distrustful about if whether they're in our best interests. And the economy, hhh, is only

one part of that. You know, they could be managing an economy well but is that really in our best interests, as a greater whole." [Quinn]

"Isn't that what journalists do? What's our angle [laugh]. [American accent] What's the scoop? [laugh] Um, hhh. [laugh]" [Quinn]

"[laugh] Love that accent. [Interviewer]

"[laugh] That *is* what journalism is. It's not necessarily presenting the facts, it's presenting a viewpoint *on,* of the facts. Actually they haven't really given us many *facts*. They're just ... telling us how they think that we're doing without providing us with the facts." [Quinn]

"It's quite funny, actually. I mean they're [visual prompts] all pretty negative [flicks through prompts] ... They all say that we're wrecking the planet and it's industry and there's plo- plumes of smoke into the air, and then we have, the polar bears which look a bit sad, and then we have the melting ice, so ... they're like the natural, like, they're the first things that we think about when we think about climate change ... and ... some of them are ... you know, the evidence that backs this, like, sa- we were saying before about the fact and the opinion ... but I mean that doesn't look good does it? [laugh] [points to plumes on visual prompt A] That smoke doesn't look good. But how can I know that, that picture of polar bears has anything to do with climate change? How can I know that this ice melting is not just a natural cycle, like, what we said before about the, this natural cooling and heating? *Ice melts*. Ice also melts in s- in winter as opposed to, I mean, it melts in summertime in some areas, I suppose, to winter, so. Um. There's a certain amount of bias." [Quinn]

Subordinate theme two: Human and systemic failings

"My personal take is I love Mother Earth. I think she's the healer of all. And I think that, um, that, um, you know, we need to look after the Earth, that has been damaged by pollution and just, just, i-, i-, ignorance and arrogance of the human race, particularly of late. And that the more people that get in touch with the Earth, the, the more healing, you know, it will be. And, for, you know, for each person individually." [Beth]

"Because, you actually have to question everything that you've been conditioned. And I didn't even think I'd been conditioned. So I realised '*Aw my god!*' This is all conditioning and then yous go deeper and deeper and you think, well who's behind this? Society? Your parents? But they're been conditioned. Who conditioned them? You know, you start *really* going-. It took me about a *year* to wake up." [Beth]

"But I try to get people to wake up but people don't seem to, it's, it's quite a hard thing to do though. Because you have to ch-. It basically means that you're wro-, you've been *wrong* all your life. So that's a hard thing for people to cope with, the ego, you know. The ego can't cope with the-. And, and, it's against, you know, th-, it comes at a certain disloyalty to s-, s-, to *society* and to *everything*, you know, to your parents, your teachers, your-, you know, I went through, I went through a- *anger*, you know, at every, *every*one, everything, like '*aw my god*, you *idiots*, how did you let this happen?', you know [laugh]." [Beth]

"But yeah, I think our population is *controlled* by this planet. Now you can *laugh* at me on that one." [Eric]

"*No*. I'm not going to *laugh* at you at that one. How, how does it, how, like, in a intentional way? H- how does that operate?" [Interviewer]

"I think, yeah, well you start cutting down *trees*, you start polluting the *oceans*, you, you, you, you're actually, you're *killing* the planet and if you're killing the planet and she will, and she's a *living* being, she's got to do something to protect herself." [Eric]

"We're a cancer. And I think man is a cancer on this planet." [Eric]

"Er, I, I know years ago, they put some deer on an, on an island. They left 'em, they left 'em on the island, I don't, I can't remember , there might have been twelve or twenty. They left 'em for about twenty years or ten years. I know they left, they didn't *go* there. But went they went back to check on them, the expected to find 'em *gone* [slaps hands]. The pla-, the, the, the island stripped of trees and no deer. When they went back they found the *same* amount of deer they'd left there and the *same* amount of growth. The animals only breed when the food's there. They breed to their conditions. Man doesn't." [Eric]

"I see the change as part of the, the, general environmental damage that we're doing to our globe through our lifestyles and our *dumb belief* that we can do more and more and more consumption, um, and that that's not going to have any implications in terms of the globe, the planet." [Frances]

"I feel very much, very strongly that the Western countries, um, have got this entitleitis thing about their lifestyle and you know 'if I can afford it, it's mine' and, um, and then of course now they're saying 'oh we can't have China upping its standard of living because what about the pollution' and I find that really hypocritical." [Frances]

"We're not even asking them to think about their families like their grandparents, their grandchildren in five or ten years time. We're asking them to think about people, the impact of their lifestyles on other people in other countries in fifty years time and [grunt] I'm *really* pessimistic about the ability of people to do that. And furthermore,

um, I *really* like that phrase 'an inconvenient truth' because I think it actually applies to all of us in lots of areas of our lives, like we're all capable of self-deception. We know that about ourselves as an individual but, but, people are basically, um, don't want to know because if they really took it seriously it means they'd have to change their lifestyle. And in the West, that means cutting back, cutting down on our standard of living. And that, it just so goes against the grain for human beings." [Frances]

"I'm part of Avaaz, so I sign all those petitions online and Sumofus and Amnesty International and things and I see there *very* much that, that, the power is with the corporations not with any governments and when I was at university, which is a long time ago now, um, we learnt there, we read, we had to had to read, um, John K Gow-Galbraith *The Industrial Estate* and it was all about how, you know, multinationals are taking over the world, and it all made sense to me from what I observed. And I'm now 61 and that when I was 19 or 20, so I've watched over those years and watched and noted that it's got to be a bigger problem and that people are still unaware of it. They still don't get it." [Frances]

"Um ... I think, yeah, I can say yes, but you see when I was at uni, all those years ago, something, forty years ago, one of the papers I did for geography was about ... um, where we had to read this, you know, the J K Galbraith book, um, was about the, the fact that resources are finite and it, it was projecting about what would run out by the year 2000, and, um, but of course, technology has made just the end date a little bit further on than the year 2000 but, um, ever since then, I've been aware of how fragile our whole, the global ecology if you like, um, is. So, um, so actual climate change to me, um, was a natural progression in terms of, um, what I learnt at uni because I could see with my *own* two eyes that in just you'd have to be a bit dumb, it's not just using *up*

resources, it's actually what we're doing to the, you know, the air pollution and the water pollution and we have got a finite planet, and, um, you know, we learnt about Thomas Malthus and everything, well, his principles still, you know, they, they still apply." [Frances]

"I feel with this that if you've got a high income, you've got options and, um, and it's the, the little people in the world who already are having a, a, a bad deal. They're the first ones that will be affected. And do we care? No." [Frances]

"Um, I just am stunned at how dumb people are I'm afraid, how they like to deny stuff – that inconvenient truth phrase again, yeah, so it *has* been growing, um, and it seems to be now that, that there's just more evidence, and I was also shocked to read that, think this is right, that Australians, and New Zealanders, and Americans are some of the worst in the world in terms of denial of- was it, was it those three nations? And I was shocked because I actually thought we weren't quite as bad but that just, that, that was *really* scary given that John Key, our leader, is a pragmatist." [Frances]

"I'm voting on your behalf and you jolly well ought to be noticing as well because you're, you know, my generation has created this mess and I say, I s- you know, um, yeah, but I ... I mean I, I, ... I don't, it's just, in terms of my knowledge and understanding, it's just, to me, it's just getting worse and worse what's happening and more and more denial, like whenever you come into some crisis, um, it seems to me that, um, it tends to polarise people's opinions, and, um, I mean I've read enough history and everything to know that, you know, people thought Hit-, Hitler was OK, a lot of them, and you know even when he was doing his thing, you know when he was invading Poland and things like that, people still seemed to be deniers about what was really happening so I think that, in general, people's grasp on reality isn't very good and,

um, I guess I consider myself as having, um, more grasp on issues and reality than, than some people because that's the privilege of having an education, um, yeah, but, um, that sounds very arrogant as well but I still think I'm right [laugh]." [Frances]

"I realised it's to do with who I mix with [laugh] that I, my perception was-, so democracy, oh dear I don't, I mean, the original, when, when democracy was invented it was only, y- the only people that had votes were actually well-educated, the intelligentsia and now, like the intelligentsia – excus- arrogance showing through again in the interviewee, the, um, the intelligentsia are such a, were a relatively small percentage of the population. They're always going to be overruled by, you know, by people who, it's not they're bad people, they just don't understand the more complex issues in life, they don't do life in a big picture way." [Frances]

"I just think we're losing touch with, um, nature, with who we are [...]." [Frances]

"I just think there's, that we're sold such a *lie* now through the media about what you *need* and I read something recently which I always said to my students at school that one of the biggest problems with the West is that we've got so confused between what's a need and what's a want. And, hhh, we're, we're just, we're, we're, we've, you know, advertising has just been *such* an influence but then we're suckers too because the more people that buy a smartphone the more people think it's an essential of life. So, so, it's, you know, it's, it's partly our, we're the ones that have bought into all that too." [Frances]

"It [climate change] slots into my worldview. And furthermore it hasn't surprised me because of thinking of all that pollution and our destruction of the planet. Like, and the potential for us to *stuff* up this wonderful, beautiful, fragile world, you know, that's been with me for my whole life, yeah, well not my whole life, ever since, yeah." [Frances]

"Well, I think, if, for a start so many New Zealanders don't even think climate change is a problem, well, *that's* a huge problem [laugh], you know, that in itself is *huge*. Um, and I mean, it's just the vested interests i- that are driving, um, this *denial* of it is *sickening*, and that's all to do with this, you know, the power of the, these multinationals and those global, you know, as well. Um, and I think it's, we've just come back in a circle too it's that inconvenient truth, and oh shock, horror, I might have to give up my annual trip to Hawai'i if this is real, or I might have to stop, um, getting a new phone even though everyone else has all the time, I might have to actually not, you know, um, buy new shoes every six months or, you know, I might have to walk and, you know, not, shock horror, you know." [Frances]

"So, it's, it's that human resistance to giving up comforts and, and also that terrible, like, you know, in our, in our, sort of, secular society, and by secular I don't mean, um, non-Christian, I mean a society where we seem to have lost all our sense of connection with nature. Like we live in such, for a lot of people, um, because I'm a gardener I guess I'm more nature-attuned than, than some people but we seem to have lost that awareness of, of *that*, and [cough], and, and, and therefore, um, and, and we've lost our sense of community, and, hhh, I was just getting really, um, I just, just in the last week I've been thinking about that, um, you know, like with housing, we see housing now as a commodity that, that it's quite OK to buy it and sell it as, as a way of making money, um, and we don't actually say, well, what's the impact of that on *communities*. Because if people are renting, they haven't got a vested interest in putting time into their local relat-, you know, their relationships with their neighbours. The kids miss out because they may not be at that school for, in three years time so why bother, why even go to school, I mean there's a whole lot of subtle changes with the whole breakdown of, of

that sort of organic community stuff that used to just be a given in New Zealand, like in the fifties and sixties. And I know not everything was perfect then and blah, blah, blah, but, I mean, we knew all our neighbours really well, we knew the people in our street, there was that whole sense of kind of ... like, we knew, we weren't all the same, it wasn't like that, but we kind of had those organic links with nature 'cos we *played* in *parks* and ran round on the grass and we didn't have computers and all that stuff. Um, we, we knew our neighbours, so the communities were strong and strong*er* [cough]. So, while we all now live in our little bubbles, um, there's just, yeah, a complete, hhh, it's hard to, to get people out of their bubble and to help them to see the world differently." [Frances]

"Yeah, yeah, probably, like, when we grew up we didn't have computers and didn't sit in front of the TV and didn't, we were out and about playing outside all the time. And, yeah, that's one of my things with the girls, like I *don't* want them to have a computer and a Playstation, all those sorts of things, I want them to be outside and doing but maybe that's become uncommon, I don't know." [Janet]

"Ehm, I think we're working in a rural environment and, ehm, a lot of my friends are farmers and things er, probably feel *more* connected to the environment and to the, and to weather and to how the change in weather and the change of environment effects *life* day-to-day. And, and, so friends I've got who live in the city are only affected by the weather if it changes their weekend plans. That sort of thing." [Janet]

"It *matters* more here." [Interviewer]

"Yeah, it *matters* more here because you, you're *in* it. You're in it all day, every day, and if you spoil a paddock, you can't use it again. So it does affect your business and your life, yeah, for sure." [Janet]

"Um ... and ... I feel like there's a *greater* source of, like, intuitive wisdom there that we've probably lost because we're letting m- machines and things do the thinking for us whereas I've sort of unplugged quite a lot and I've gone sort of the other way in thinking about how I'd like to reconnect, um, with *myself* and develop my own awareness." [Quinn]

"Well, here's a small example, which is ... like, I've been doing a lot of cooking over the last, like, well I mean, I do cook a lot anyway, but, one of the, like, h- a ... a position that I came to was ... I look to nature ... for wellbeing, and for healing, and nurturing ... and I do that through food being medicine ... and then, I take all those natural foods and I put all this food scraps in the bin 'cos I don't have a compost ... [laugh] and I was, like, this feels like it's a one way relationship ... how can I expect to be take and not give back." [Quinn]

"I feel that ... I mean here's another opinion [laugh]. And it's related to the modern lifestyle, you know, like ... and that disconnection, like, you know, the ... rise in cancer and ... you know, every day I hear about someone new with cancer ... and I just wonder how we all got *so* out of balance. Um... I do wonder, like, what ... like, what it means *for* us. Like how do we get around, what, what, to what technology do we use. Is it even *about* technology? [Quinn]

"I was about to ask you – *is* it about technology?" [Quinn]

"Is it about ... rediscovering who we, the very essence of who we are, what we are. Are we an extension of a greater force? Is there, you know, do we have li- unlimited or untapped potentials and capabilities that mean that we don't actually need transport [laugh]." [Quinn]

"Like what, what's the end goal for us? You know, is it ... is it beautiful homes with more stuff, is it health, is it ... you know, is it flying up in space? Are all of those things accessible if instead of going out, we go inwards?" [Quinn]

"So ... I just, I wonder about our reliance on convenience because we're working so much ... making all these products ... some of them absolutely required, others not, and us taking responsibility for our own wellbeing and a- ag-, you know, having that connection with nature and, our food. Yeah." [Quinn]

Superordinate Theme Three: Climate change as a Personal Story

Subordinate theme one: Negative emotions

"And then they bought in all these things like, I thought the most ridiculous thing was the, the fart tax or something. I thought, are they *joking*? You know? Are we a bunch of two years old here? Who's putting this out? What is this about? And that's what made me, um, look into it deeper." [Beth]

"*An Inconvenient Truth*, yeah. 'Cos I saw that, and that was, like, oh my god, fear of, put the fear of *god* in me, you know. And that, that sort of started it. And I thought, this can't be right, this is confusing, so it triggered something off." [Beth]

"I know how I felt before I kind of faced all that stuff, you know, discovered it and looked into it, and faced it and all that, I know how I felt before, I was *depressed*. *Depressed*, *fearful*, and a fear-, a sense of ... impending doom and *hopelessness*, you know. Impending, yes, *slow* in the *back*ground." [Beth]

"OK. At, at the time when I went, when I w-went to see that movie I remember coming out and I was in shock. And I think most of the people i- that came out were in shock. So, you, you, you sort of do-, w- you don't sort of think about then if you're in shock, 'cos you've had this, this terrible message that you're all gonna die [laugh]. You kinda

think .. [fake pained voice] 'how am I gonna save myself?', you know? You do, you sort of think 'what am I *gonna* do? What am I gonna do?'" [Beth]

"Well, that's what I thought, I was confused about it. I, I just thought, hang on a minute, like I said before, the Earth's been around a lot longer than anybody that's alive on it right now. It's been around for *billions* of years. Like, we can't even imagine how long a billion years is [laugh] let alone *billions* of years. It's still here, it's ever changes-, part of the cycles, you know." [Beth]

"See I don't *believe* in that doom and gloom and all that, I suppose, underneath it I just think it can't be. Something inside me just says it *can't* be. I don't know whether that's just my survival mechanism or what, but. No actually, I think what it is, is because I look back twenty, you know, years ago, as I say, my childhood, and I remember everybody just it was a different vibe around then. There was a lot more relaxed, everything, everybody, kinda, there was more of a flow around things. Now everything's stressed, it's just awful for *young* people, especially, you know. I feel sorry for the k-, twenty year olds." [Beth]

"Yeah. *Yeah*. And, and driven by, they put fear, so it's like [suck in breath in fear] 'hhhh', so people are stressed and the minute you get stressed, you're kinda dysfunctional, aren't you, you're dysfunctional, you're not, you're not in the, you know, nature isn't like that. Is it." [Beth]

"But I try to get people to wake up but people don't seem to, it's, it's quite a hard thing to do though. Because you have to ch-. It basically means that you're wro-, you've been *wrong* all your life. So that's a hard thing for people to cope with, the ego, you know. The ego can't cope with the-. And, and, it's against, you know, th-, it comes at a certain disloyalty to s-, s-, to *society* and to *everything*, you know, to your parents, your

teachers, your-, you know, I went through, I went through a- *anger*, you know, at every, *every*one, everything, like '*aw my god*, you *idiots*, how did you let this happen?', you know [laugh]. But I've learnt to not, I, that's not the way to go. You just gotta keep, just keep thinking, you know, I'm a, I'm a believer in positive outcomes." [Beth]

"I think it's just, I'm just *gobsmacked* at the dishonesty. The dishonesty. How they, how the power that these people have to gag the media, the scientists first of all, manipulate the media. Basically *hypnotise* the *mass* civilis- [laugh], you know, Western world and round the world. It's just, it's just *astounding*. I d-, honestly, I feel ... my god, and I also think I'm little old me and I'm seeing it from, I can see the truth, I feel 'aw, thank god', you know." [Beth]

"And then living on the coast as well and walking on the beaches and picking up shells. Yeah, I was *hooked*. I w-, I *love* fishing. I love the beaches. I can't go, I'm, I'm, I used to when I had kids we'd go down and picnic on the beach .. but it's not my scene, I prefer to *walk* the beach, not just go down and sit. Aw, I *will* go down and, and fish. *Then* I will, if I'm fishing. But I try to get away from where anyone else is. Try and find where I'm on my own. But yeah, I just fell in love with the ocean. Twenty one years of my life I'd never seen it, *basically*, and it wasn't until I come to New Zealand, living on the coast, I *fell in love* with it." [Eric]

"That one bothers me, yeah, the sea rise." [Eric]

"Do you know what frightens me the most is that, is our, is our polar ice shrinking 'cos of *manmade* or is it *natural*? .. That, that's the only thing that *does* bother me. 'Cos our ice, our ice fields are actually important to us." [Eric]

"Yes, I *am* bothered about it. It *does* worry me. We, we need and if it starts then, then the ice a- age will come. Is it *manmade*? Could be fifty fifty. It could be sixty forty." [Eric]

"I mean it's just a case, yeah, and I, it's just a case of how long, and I think that I feel, I want to be optimistic but I actually, a lot of me is really pessimistic because, um, like I've worked with people all my life as a teacher and, um, and, all sorts of other roles as well but I notice that in general, um, many people can't, aren't good at planning their own futures in terms of where they want to be in five years or ten years, they tend not to think like that and we're asking people to think about, um, not just themselves in five or ten years which they can't seem to do. We're not even asking them to think about their families like their grandparents, their grandchildren in five or ten years time. We're asking them to think about people, the impact of their lifestyles on other people in other countries in fifty years time and [grunt] I'm *really* pessimistic about the ability of people to do that." [Frances]

"Yeah, I know, well I, I actually don't think we can wait. I think the only, and this is kind of to me what, what your, in your project, why it's such an important piece of research is that we can't wait for people to get it. [..]And this one, if we wait for people to get, because there's even more to lose for people than just giving up smoking, by the time enough people get it we'll be goners." [Frances]

"I'm an optimist by personality but, um, but deep down if I was a, a, um, a gambling person I would not gamble on the, the likelihood that the human race will get this before it's too late." [Frances]

"And what *really* bugs the hell out of me, too, is that it's haves and have nots even more. It's the have nots that will be first affected and that it's like, um, in a war, the people

who've got the best weapons are the ones that win and I feel with this that if you've got a high income, you've got options and, um, and it's the, the little people in the world who already are having a, a, a bad deal. They're the first ones that will be affected. And do we care? No." [Frances]

"So it does make me feel ... um, ... very ... angry. Um, it makes me feel quite sad." [Frances]

"So, um, so actual climate change to me, um, was a natural progression in terms of, um, what I learnt at uni because I could see with my *own* two eyes that in just you'd have to be a bit dumb, it's not just using *up* resources, it's actually what we're doing to the, you know, the air pollution and the water pollution and we have got a finite planet [...]." [Frances]

"Um, I just am stunned at how dumb people are I'm afraid, how they like to deny stuff – that inconvenient truth phrase again, yeah [...]." [Frances]

"[W]e like to, kind of focus on little trivial things like that and not look at the big picture. And I, I think that, um, when I look at what's reported in the papers, um, there's so many areas where, like, um, the, the refugee thing, I mean that's now at the moment being taken up a little bit, but in general, um, and I read the magazines and if I walk into the supermarket and, um, and look at the titles of the magazines, especially for women, I just feel so *oh my word*. Like the sorts of topics that, it's, it's like that phrase 'polishing brass on the Titanic', like people just look at the brass and, and that's kind of money as well, it's a bit of an intentional pun there, and they just get, it's like possums staring at the bright lights, they just, yeah." [Frances]

"I have two Chinese home-stays which cause me much, they're lovely girls, they're intelligent girls both of them but boy when I look at their attitude to rubbish, I look at all

the food they buy that they don't even eat, things like that I just ... it's *really,* that, that frightens me because they're a microcosm of, you know they represent a whole generation of Chinese who don't get it." [Frances]

"I mean teenagers aren't at their best ages of development as human beings, but there's just laziness, for even picking up rubbish and if you can't pick up your own rubbish [laugh] it's a bit scary in terms of all the other things we're asking people to do - changing their lifestyles." [Frances]

"So they'll be grabbing all the best places to live, they'll be grabbing the, the resources, they'll be grabbing the fish in the sea, the, the plants, all that stuff. So I just, hhh, um, yeah, it's quite ... that, that *really*, really, um, concerns me." [Frances]

"I can see right back as a thirteen year old I was *really*, I had, probably an above average awareness of, of inequality. And so, um, yeah, so this is just all, that's, that's part of what *really,* really concerns me but once again, as I've said before, it's the little people of the world who will be, um ... I, I use the word *extermination* actually because I think it's as *sick* as that. Um, the *greed*, and the, the self-centredness, and the, um ... yeah, the, the attitude of, and just the *complete* lack of humanity that's there." [Frances]

"I'm more of a global thinker so I, I don't, hhh, yeah I have, I have actually questions about [laugh] a world where the nuclear family is becomes your little god that you care about above everything else, that isn't how I do life, [laugh] much to the disappointment of my children sometimes. Um, and the same with New Zealand, I don't want to live in a world where you know New Zealanders have got it going, you know we're onto a good thing and there's chaos and, you know, I see myself as a, a global citizen very much and I don't, I'm not really a strong patriot, I love New Zealand but I don't think, yeah, I care about what's happening in other countries as well." [Frances]

"Yeah. And nobody greatly knows what to do about it or is taking control of it, I don't think. I think we're not acting fast enough. It's already a snowball that's past us, I feel." [Janet]

"What can we do, other than damage control basically? That's how it feels, yeah." [Janet]

"Ehm, feel, well, I do think about it a lot and I do feel *bad* about it and I think it's, hhh, easy to feel guilty and take it on yourself and think aw my god, wher- I'm a human and therefore I am to blame for part of this, and then another part of me thinks well, say I was to, ehm, become completely independent of the, of, you know, the huge generation of waste, and not using fossil fuels, would that make *any* difference." [Janet]

"Ehm, yeah, like recycling, for example. Small thing. Easy to do. I don't find that many of my friends *do* it. I'm, like, [exasperated] *why*, you know, basic little things like that it's just –." [Janet]

"*Aw*, not a good feeling. Worry, it's a worry and it's a yeah a h- heavy sort of guilt feeling like 'aww', you know, we're damaging our planet and, I've always had a love for nature and animals and I want my children to be able to *see* that and *do* that and *have* that. So, the thought that their children's children potentially w- won't have that diversity is ... pretty negative feeling, yeah. Don't, it doesn't feel hopeful. It doesn't feel like we've got much that we can do, other than ... know that for yourself you're doing the right things by climate change. I don't know that we'll create enough tide of movement to sort it out really." [Janet]

"I guess with climate change, I just, it's more with *me* like I have an inherent ... concern for Mother Nature. Um, and that's something that's been coming through quite strong for me recently because ... I've looked to nature for my own *wellbeing*." [Quinn]

"Mmm. ... I feel concern. I feel that ... I mean here's another opinion [laugh]. And it's related to the modern lifestyle, you know, like ... and that disconnection, like, you know, the ... rise in cancer and ... you know, every day I hear about someone new with cancer ... and I just wonder how we all got *so* out of balance. Um... I do wonder, like, what ... like, what it means *for* us. Like how do we get around, what, what, to what technology do we use. Is it even *about* technology?" [Quinn]

"Is it about ... rediscovering who we, the very essence of who we are, what we are. Are we an extension of a greater force? Is there, you know, do we have li- unlimited or untapped potentials and capabilities that mean that we don't actually need transport [laugh]." [Quinn]

"Like what, what's the end goal for us? You know, is it ... is it beautiful homes with more stuff, is it health, is it ... you know, is it flying up in space? Are all of those things accessible if instead of going out, we go inwards?" [Quinn]

"But then I also have realised, like, w-, yeah, where are, where are we going? What, what, what do we want? Like, I have *so* many clothes but y- I feel like, you know, they *date*, they grow old, they [laugh], they have their use-by and so it's like, coming out of that consciousness of having to ... being a consumer, you know." [Quinn]

"Climate change is, is part of that then isn't it, so ..." [Interviewer]

"Big time." [Quinn]

"Because ... again, I jus-, I wonder if, like, we're causing this much damage, with the perception we're causing damage ... I mean it's not, it's not *harmonious*, it's not a harmonious way to be living ... so what is the purpose of man? [laugh]. Are we meant to be here living a non-harmonious [laugh] or learning to be harmonious. You know, what is the *point*? So ..." [Quinn]

Subordinate theme two: Denial

"It's a manipulation." [Beth]

"Um, and basically it's just, it's just another way of, of, um, I mean it goes into, you know, like it says, stealing the world, and, and how it all, why climate change is important to *them*. You know, this, this, why making this, a, a, negative issue. Um, but I don't want to go into all that *here*, but you can see how it all fits in. The important thing is that the truth isn't being reported." [Beth]

"Well, most people.. they don't seem to want, they sort of want to know but then you get so far into it and they 'oh, that's enough, I don't want to hear any more', you know, 'I've got enough problems of my own thank you very much'. It's [sarcastic] *hello* [laugh]." [Beth]

"So, so, it's what, it's too, it's too-" [Interviewer]

"It's too much for them, or maybe I'm not a good communicator in getting it across. That's why I try to give them the book, '*read the bloody book*' [laugh], go on YouTube. Make your *own* mind up, you know - they can decide that, that it's, that it's a lot of rubbish but for me that, you know, like, I don't mind that, that's fine but I'll keep telling or trying to get through to people." [Beth]

"Um, as for global warming, *yes*, it could be our fossil fuels. We don't need to dig gol-, ah, coal anymore, we don't really need to go after *oil* anymore. We can, we can run all our vehicles. The multinationals will not give away their, their oil. *Not* until it actually runs out." [Eric]

"If, if we went back to being peasant farmers again and just working the land and not cutting down trees, yeah, we may, we may go a couple of hundred years longer, but I think it will eventually happen. *Not* just through man but -" [Eric]

"No, not anymore. I d-, mainly now talk about me shells." [Eric]

"Ah, actually, *not*, not, I don't really think too much about it." [Eric]

"Maybe 'cos of my age now. I, I don't intend to die for another y-, another seventy five years [laugh]." [Eric]

"Um, yeah, well I've seen about the melting of, you know, the ice caps and rising of sea levels and, you know, all that stuff but those details, I actually, I don't, I don't go there too much because I find that really frightening and I don't, I think it's counterproductive, for me anyway, to actually get too much into the science of it. I mean there are people who are, are doing that [...]." [Frances]

"I, also have seen figures about, um, like a military plane hovering over [laugh] the Middle East or whatever you- causes so much damage to the environment and even though I do travel overseas a little bit like once every two years, I'm also aware that that's not ideal either. Um, although I know Air New Zealand is working to try and cut that back, but, um, yeah [...]." [Frances]

"Exactly, exactly. Yep, yep, and those two things are both sort of colluding, like, they're both heading in this denial and 'oh shucks, it's too difficult, we won't do anything'. And I was even ... quite concerned about three years ago I was away with a group of friends and there were five of us and one of the guys is a lecturer in biochemistry at [name of university] – he's a *really* intelligent guy, he's a baby boomer like me, and he's kind of more left wing rather than right wing, but we were talking about the, you know, um, tax emissions kind of proposals and everything and he was saying 'oh, it's just so hard, it's so complicated, I just' and I was saying 'look, it is complicated, it is difficult, but if you don't start somewhere is that, is that, you know, a normal life?'. If you're having a problem with your marriage, do you say well it's just too hard, so I won't do anything

about it. Knowing that it's not going to so-solve it, just get worse. I said 'you know there's the whole, the whole human race, our future is at stake here', and I thought 'oh my word, here's someone who is highly intelligent, where this is, this is, he's got boys who are - one of them is, has also done also a PhD in environmental studies – and, and he *still* is kind of happy to say 'oh yeah, look, it's just too hard, we've just you know-' yep, so that really, that was another thing that *really* concerned me. Here's someone I really respect, not like your average New Zealander that, like, kind of thinks that rugby is where, where the meaning of life is found etcetera." [Frances]

"Ehm, feel, well, I do think about it a lot and I do feel *bad* about it and I think it's, hhh, easy to feel guilty and take it on yourself and think aw my god, wher- I'm a human and therefore I am to blame for part of this, and then another part of me thinks well, say I was to, ehm, become completely independent of the, of, you know, the huge generation of waste, and not using fossil fuels, would that make *any* difference. 'Cos I am one out of *billions* of people. So, therefore you can square it away and think I'm not really going to affect any change anyway therefore it's not my ... direct issue." [Janet]

"So that's changed I think, but, hhh, I think the ability to, hhh, give a very direct, ehm, reason, or, or, or, course of action to the general public has, is *so lacking* that there's, you know, what, how are you going to do anything about it? And I don't think the general public care, particularly. I really don't think there's any real, either *ability* to understand or *want* to understand what it is we can do. Ehm, yeah, like recycling, for example. Small thing. Easy to do. I don't find that many of my friends *do* it. I'm, like, [exasperated] *why*, you know, basic little things like that it's just –" [Janet]

"No. No we've not talked about climate change. I don't think I've *ever* talked to a farmer about climate change. Talked to them about, ehm, methane gas. And we've talked about

palm kernel. 'Cos a lot of farmers feed palm kernel, which obviously is a, a by-product of the ... deforestation so there's *that* discussion but ... it's not really been specifically about climate change. Just, I guess their direct, those things all feed in to it, but for them it's more about what happens on their farm and where their money has to be spent, yeah, or what they're going to feed their cows." [Janet]

"Don't, it doesn't feel hopeful. It doesn't feel like we've got much that we can do, other than ... know that for yourself you're doing the right things by climate change. I don't know that we'll create enough tide of movement to sort it out really. Yeah. And if *we* do, that's us. What about Russia and China and America and all-, it just seems like too big of a challenge to sort it out." [Janet]

"I think it's my children and their children that it would affect. I don't know that it would necessarily affect me, because by the time things start [laugh] falling to bits I'll be old and senile [laugh]- and not particularly bothered or aware of it hopefully." [Janet]

"*Aw, see* so I've always had a pretty overpowering want to protect nature and I've always, it's always been in my foremind, foremind about how I do things in a way that's not impacting too badly. Ehm, I guess that's been strained by having children because there are certain things that you unavoidably do by [laugh] having children like generating more waste, having more clothes to wash, more dishes to wash, things to buy and places to be and all of that. But that does, that is kind of, ehm, contradicting my want for, you know, living completely [laugh] at one with nature." [Janet]

"Ehm, but yeah, don't know, it's, it's very easy to not *have* to think about it. That's part of the battle I suppose." [Janet]

"Ehm, I guess the world we live is *so* fast moving and you're expected to be all of these things all of the time that climate change and your effect on nature can be put down the

list of priorities very easily. And you can think oh I've got so much other stuff to do I don't have *time* for that, or the *money* for that, or the whatever it is." [Janet]

"Aw, so, like, yeah, burning orang-utans. Ehm, [fiddling with paper] smoggy skies, factory, chimneys, ehm ... hhh, going for a walk and not being able to see very much of diversity ... ehm ... yeah. Just .. I s-, a *greyer* world, a bit *grey* and a bit kinda durlich [?? dismal] and, ehm, everything being .. quite, er, like, a lot of the places that we ... lived, the species of plants that are planted are not native or they're, ehm, you know, they're fancy *looking* and they're, yeah, I reckon it would look more and more like *that*. Concrete and plants that are not native and, er, little beyond the .. agricultural and city limits, just *bare*, *barren*, yeah that sort of stuff. [Janet]

"Mm. Um, you've, I mean, you've touched on this before, 'cos I asked you about, um, some of the feelings that come up with climate change, but when you hold those images in your head, what do you do with them? You know, how do you feel, do you- [Interviewer]

"Aww, explore them a little bit and then, kinda put them into the pfft, too, too hard basket, probably." [Janet]

"Not, not more than a couple of times in my *life*." [Peter]

"I think this (climate change] is happening. But ... since I don't know how *bad* it is, I, I don't care. Because ... I think Earth have been changing its climate, like, lots of times through the history. Right now, probably we are doing a, a very good job [laugh] doing this climate change but, um, it's not like, not like, ah, I get the problem so, yeah. That's why, I don't care." [Peter]

"Oh, completely ... ah, not indifferent, but close to that. Because *I* know that there is an *issue* with that but ... probably it's one of this big things that I cannot change like being

vegetarian – that, *I* know it's a problem, I want to not eat meat but it's really tasty and I enjoy it a lot. Ahh, so, *yeah*, I, I'm not part of those, that too. So ... it's not actually a thing that I can change by myself. I can be *part* of the solution and part of the problem." [Peter]

"Because, yeah, I know I could be part of the solution but I choose not to because it's a little harder to be part of the solution than be part of the problem." [Peter]

"Like, it's *too* hard. I'm one *person*. My changes won't affect that much. Ah, probably, I *could* do more. Yeah, you can always do more but I'm worry about other stuff, like .. *myself* [laugh]." [Peter]

"Besides, I, there's another thing that, um ... this is very *selfish* thing and i- it is, I don't *want* to have child. I don't *care* about a future for my childs. Probably, the, this thing, ah, affects too, a lot because lots of people talk about that 'hey but well how about building a future for your child so for grandchilds'. I don't know, no well, I don't care I won't have child, I'm not planning to." [Peter]

"Well, yeah, I, I know *you* will have childs I, I don't know what someone else will have childs and, *yeah*, I could do a, a better world for the-, for them but I don't really care that *much* for them." [Peter]

"Oh, and I believe in *another* thing. Pretty strongly that defines a lot of what I *am* myself, right now. Ah, it's a bit, ah, out of the context but, ah, in, from here on four years for, say some date, ah, we will have artificial intelligence and that thing will worry about anything of humanity's problem like global warming will solve it, *or* will kill us out. So, any, any other, ah, any of the two possibilities are good or bad, but are absolutes, so." [Peter]

"And the thing is, it *is* happening. I mean it's not like believing in, in religions or stuff, it's *fact*." [Peter]

"Oh, ah, the thing is, if the Earth is too hot to grow some seeds, ah, it's not like we are in three centuries ago. We, we won't move our place to another proper one. We will modify the place to be able to, like, Monsanto, they make, ah, ah, pesticides that are probably killing our pests but besides that they are, they are making plants that are stronger against lots of things. Ah, so yeah, they probably can come out with plants that are stronger against heat. The *same* plants. So that's, that's why I, I'm not caring that much about it because I, I believe a lot in technology." [Peter]

"There are people, very intelligent people working on making the world a better place. Ah ... I can do that in *my* area. I can do that in technology areas, or, I don't know. But I'm, I don't know about this things and if I don't know this things and they are very bad things .. there are someone that is doing a *very* bad job. There are intelligent people that they are not doing their j- their job at *all*. So, ah, if people doesn't know about this things, ah, that's why I believe it's not, ah, a serious thing because there are people *working* on making people know about serious stuff. Ah, so, ah, or this guy are doing a very bad job or the thing is not as serious, ah." [Peter]

"Well, in my daily life ... it's ... at the moment, not much." [Quinn]

"We don't talk about it very much, actually." [Quinn]

"Yeah, I feel like it's ... it's interesting expressing, I feel it's interesting e- expressing opinions because, um ... everyone thinks they're right [laugh]. I, I, I am sort of not so ... I'm a little bit reluctant to talk about it at the moment unless it's with, like, my family." [Quinn]

"Yeah. Why?" [Interviewer]

"'Cos I know that my fr-, I, I have the perception that there's some of my friends who are .. have other s- sort of concerns and, like, motives and it's probably not doesn't fit in their, with their world picture." [Quinn]

"Tell me more. Concerns as far as they, they, they what, don't think it's even relevant or concerns as-" [Interviewer]

"I think that ... I think that they think it's relevant ... but I'm not sure how serious they take it. Because for it to really be relevant you need to start looking at how ... the change doesn't start outside of yourself, it starts with you. So, I mean I have friends that, like, run businesses that are sort of in the food in-, in, in food and hospitality, and, um, they're concerned about, like, say the provenance of food but maybe not so much about, I don't know, recycling [laugh], um." [Quinn]

"Like, I still dr-, I *rely* on my car. Like, I n-, I *need* it with my commuting so, there you go [laugh]." [Quinn]

"I won't take the train." [Quinn]

"Can you tell me why? [Interviewer]

"Because I'm a busy girl and I want my own time-, timeframe. And I don't have time to go and, sorry." [Quinn]

"I feel like, um, like, fossil fuels which is probably about the greatest contributor, the most detrimental is, like, um, like what, what can we do if don't know about the new technologies. Like if the government isn't in our interest and they're not releasing ... I mean the *greater* government, the world government, is not releasing things that .. could be in our interests then of course we're in the dark and we don't, we *don't* know. [Quinn]

Superordinate Theme Four: Climate Change as a Call to Action

Subordinate theme one: Responsibility

"[laugh] What they should be doing, they should be telling the *truth*. They should drop this bullshit. They should put, let the scientists give all the facts and data." [Beth]

"Aw. I think .. we, we, we would, if we stopped burning fuels, if we started going on everything, every vehicle and this, this is where the government, that could *work*, but the government's got to pay for this bloody change over. They'll allow no petrol vehicles in to the country. Diesel *or* petrol. Just, and subdivise [subsidise] the changeover too." [Eric]

"So governments have got to take the lead." [Interviewer]

"*Yeah*, they've *got* to. Look the cars are there *now*. The cars are there, which, do you, you don't need to *drive*. They drive themselves. There don't need to be nose and tail accidents because it is automatic braking when you get too close to a car. There's cars that you can't start until you've had a breath test. You have to blow into your, into your *own* car and the car says no you've had too much and won't start. It's *all there*. We've *got* it all. It's just our governments have got to take this lead, and say OK, we'll, we'll put the cost up." [Eric]

"Do you think people can take the lead? Do you think a- us as individuals can do it?" [Interviewer]

"There are, like I told you that man did his own car round and he and he won, yeah. There *are* a lot of petrol heads. *Unfortunately*, there *are* a lot of petrol heads." [Eric]

"That's why I'm pessimistic because a) people aren't believing it and b) when it comes to the crunch- actually I've got another reason as well why I'm pessimistic – when it comes to the crunch they don't actually *want* to change and that's why I think governments have to absolutely to take the rule, um, with, you know, extra taxes and things so that the real cost of production of things is reflected in the cost people pay." [Frances]

"I, I think I would do everything I can in terms of signing petitions, marches and all that to try and get it into the government's head that a lot of us do care. But, um, I don't think, um, the government has to legislate in people's best interests and we've now *finally* got that in terms of anti-smoking laws but it took so long and how many people had to die before we actually got *that*." [Frances]

"If there are industries who directly have a *big* impact on environment change or, you know, degradation to the environment then they need to have their own policies which I think th-, largely they do. That's a different kettle of fish, I think, if they're specifically going to be-, like agriculture, having an effect then they have, they definitely need to have climate change advisors or some science based, ehm, advice to go on. But, ehm, in terms of public change I think it has to be grassroots. Small community." [Janet]

"I think government's role would be to have ... people who can, people who are *already in* environmen-, people in communities to become *leaders* or at least show initiative and, and start generate that change."

"So, facilitation, really." [Interviewer]

"Yes, exactly. I don't think any *broad sweeping* political anything's going to work because nothing-, one broad banner's not going to fit any community anyway, so, you know, what might work for one community certainly wouldn't work for another. And like *you* were saying rural versus, ehm, city, you know, you can't expect the, the values to be the same, I don't think. So yeah I think it would be facilitated and, you'd have to infiltrate [laugh] all those little communities and work out why things are, what they would, what the changes could be and then *make* them." [Janet]

"On a global level? Does the same apply?" [Interviewer]

"Yeah, definitely, 'cos every country's different, every culture is different, every process of how people live is different. So it can't be broad sweeping either. Except when it comes to the big stuff like the power stations or the, the rainforest. Those sort of things *are* different 'cos they're *huge* compared to just normal everyday life, I'd say." [Janet]

"Government should maybe, ah, inform the people but, ah, at least in my country the government doesn't have too much credibility. So anything that comes from the government, people just don't follow it. So, I, I, I can't think on a proper solution for this kind of information thing. So the government maybe can, ah, add some rules for the industries, the big ones [...]." [Peter]

"Is it up to industry?" [Interviewer]

"No, not at *all*. I mean government is the one who have to care about that. Businesses ju- just want to be profiting for itself. They don't care about anything else. So it's not-, besides they are persons like us, just more ambitious, so, ah, yeah, they won't do anything if the government doesn't put a rule on it." [Peter]

Subordinate theme two: Policies and practices

"Because the more people that wake up, and share it in a positive, you know, like, 'hey wait a minute, we gonna let, you know, this is, what, this is crap, don't buy into this'. You know, it's like, um, taking their power away, taking the power back to yourself, to the people, and to the truth. As they say, the truth shall set you free, you know, I mean, you. Enough's enough, it's just a, it's just a joke." [Beth]

"Sharing, sharing the, sharing what I've learnt to people who are, w-, well, open or closed. I mean, h-, you know, you hope that people can be open minded. You never know, you might just say that one little thing and they might appear to be closed but then they go and do their own research so you don't know, I don't know, but yeah I think

talking about it is *really* important. For me, that's probably number one. Also, um, giving back to the Earth, you know, like, I do like the idea of the, you know, the composting and everything, and living naturally. Um, I mean I drive a car, but ideally if I could afford one of those Prius things I *would* buy one." [Beth]

"Um, yeah, um. I definitely want to get, like, um, as ... i- independent, yeah, as possible, financially independent. Get away from the banks and the whole system. Get away from, um, you know, like, my, [husband's name] and I talk about having a, well, we are, move - we're gonna move out of Auckland and have a, um, live in the country, you know. Live more naturala- naturally. 'Specially as we're getting older, you know. Just get more down-, get more back to nature and be more *creative.* The current life, like, we're both creative by nature, naturally like that and I think most people are anyway but, um, y-, we-, because of the system, y-, you're on this treadmill, you're like rats on a treadmill, and that's what they want you to be on that treadmill because y- they want people to pay taxes. Keep the whole system going." [Beth]

"They [the government] should put, let the scientists give all the facts and data." [Beth]

"I've got, um, LED lights [laugh]. I try to, you know, I try to, I try to l-, I try to be, um, you know, sparing. Keep, you know, like, turn the things off on standby as much as I can. I mean I'm not, I'm no saint but I'm, you know, we recycle all our, all the bits and pieces and we've got a, a compost thing, um, you know, where all our, we separate, the, the rubbish from the, I never used to do that but I, I was absolutely *amazed* when I started doing that because ... how much can be composted back." [Beth]

"Yeah I, I, I, cut down, I don't, you know, I, I don't, I j-, if I don-, if I can avoid a trip to the supermarket or anywhere I will. I'll just think, aw, no that can wait. Yeah, and I

mean, as I say, I'd like to have a car that, you know, was it, like a Prius but they're very expensive." [Beth]

"But this is, this is in the context, that I'm reading of, of not climate change but of, of-" [Interviewer]

"Caring for the Earth." [Beth]

"-of, yeah. Not, not one thing. [Interviewer]

"They're two separate issues." [Beth]

"No. I, I'm, I .. I'm *totally* happy with my life, and I'm *totally* happy what, what I'm doing here." [Eric]

"*Yeah*. I'd love to go, I'd love to be a *true* gypsy with a horse and cart. *I really would*. And a couple of dogs, and chickens with me, and a *goat*." [Eric]

"I still think that we actually need *another* hippy movement to get rid of, to clear out all the technology, the crap, our brains and everything, to, to clear out our, um, ... sort of that entitleitis thing about what material comforts we're-." [Frances]

"I need to live a really simple lifestyle. Like I don't go to the movies. In fact I've been once, I think, in the three years, I don't go and buy coffee, I don't buy takeaways, all those things but that's not virtue – that's partly [laugh] because of the, the choices I've made with how I use my money. But I am also aware that there are some, by pure good luck, some, some spin offs, um, by not buying imported fruit, you know, by growing your own veges, and you know, I'm, I'm, yeah. But I can't say that I'm, I do that partly 'cos I'm a pragmatist as well, but I am aware of the implications of-, but also once again I'm privileged like I chose ... to live where I live so I could walk to the library, walk to the shops, walk to the beach, well, you know, not everyone has that choice, let's be real about it." [Frances]

"I suspect it's [political system] not [capable of acting on climate change], and that's why Avaaz is *so* important. I give actually quite a lot of money to Avaaz now [...]." [Frances]

"Avaaz is not, like, they're apolitical, which is *really* important and they're international as opposed to just looking after the interests of one country. Um, I looked at their, their, they put out something or other about a commitment to a lifestyle as Avaaz, I don't know if you're part of Avaaz but a while ago they put out, probably a year or two ago where they, they said 'look, you know, we're global citizens. How many of you are prepared to, to *live* on these principles?'. And I thought they're fantastic. And I saved them somewhere on my computer and I thought I must do a sermon at Cityside on those sometime because just, um, yeah, what it means just from a completely non-religious, apolitical, you know, what a responsible lifestyle looks like. Um, and, so, grassroots change, I think, has got more hope, but I just don't, when I look at the power of these multinationals and what's happening, I, I just think we're, it's quite concerning, yeah. So, I'm not putting my hope in grassroots movements either. I'm not putting my hope in anything really [laugh]." [Frances]

"Yeah, so all those things I've talked about, before, like I try to be politically involved, um, I try to be responsible by with my own lifestyle choices, um, I try and talk to others about stuff, um, yeah, but, um, as I say, I'm a *tiny* little *speck* in the ocean, but I try to make the speck-" [Frances]

"OK, so a simple lifestyle, um, for me, um, is trying to live counter-culturally in terms of stuff so, like, in this house [F points to furniture items around the lounge], TradeMe, TradeMe, TradeMe. Almost my whole life comes from TradeMe. So I buy second-hand whenever possible. Um, my table, my nice coffee table was six dollars. My light-, my

lamps which match the rest of the house cost sixty dollars. Even though I spray painted them to make sure they blah, blah, blah. So I try and live like that. Um, I also, I'm really putting down roots here in this local community, so, I, I try to, um, like I have, I get to know my neighbours. I try and, like, um, yeah, I've got a relationship with all my neighbours. I try and offer, like, I like that idea of mutual support, you know I fed your cat, you clear my mail, just little things like that, so that's a strong community sense, and when I eventually stop driving my car [laugh] to work every day, mmm, I, I want to get involved with a local school, um. I don't actually eat out in restaurants hardly ever, um, I'd rather invite people here for meals so I'm creating my social life here in [street name] in, with my, like, like I read somewhere recently where a woman said 'I see my home as a *marae*', and that's, I thought, that's, that kinda what I'm trying to do so, like I've, I've got, I built that minor dwelling on my section and – I'm noticing t-, the, um, the privileged position I'm in – um, so that's a two bedroom home which I will always rent out and I want to rent that out to someone, as I have at the moment, who's, who, it's, it's a relationship thing, it's not primarily, well, it's about providing this guy who was desperate for housing with housing but there'll always be people desperate for housing and I really want to, to, pray, well I am, I'm, I'm, my prayer is that w- I will always have someone there who we can work as a team rather than living in our little, hou-, you know, little boxes, separately. And in fact, eventually, I'll move into that house and my kids or someone else will come and live here so, I'm kind of really committed to, to [street name], um, locally, yep. Um ... try and grow my own veges as much as possible. Um, ... hhh, yeah, I li-, I, just 'cos I'm Scottish. As well I do a lot of my own han-, you know, I do stuff myself, I try not to pay people so that saves a lot of money, I sponsor children, um, and that's, I give, I'm trying to give away quite a lot of money, like when I

was married, I couldn't, um, give away as much 'cos my husband wasn't into that. So now I can give away, I just try and, I live, um, so, I, I don't go to the movies, and I don't eat out, primarily so I've got more money to give away and it works really well and that's one advantage of now I'm in a situation where I can live in a way that's far more true to my values for those years, compared with when I was married. And that wasn't why I left my husband, but, um, it's been one really good positive flow on effect. Yeah, yeah, so I, um, I try and, my meals, I don't buy many processed foods, I make my t- I am a hippy at heart, I make my own tomato sauce and- as much as possible and things like that right from scratch, you know, I like my, my, sprouts and all that l-, I make my own muesli ... and, in fact, I've got some bread that I should go and check. I'll just go and check that now [laugh]." [Frances]

"Um, not really 'cos I think I still see stuff quite similarly to that, you know, little innocent at nineteen listening to these university lec- *that's* where the revelation came, *that's* where the light was switched on. Like, as I say, I, I had that inequality thing, hardwired probably and I did, we had a Jewish social studies teacher and he told us about kibbutzes so I loved that idea, and I mean I'm from a big family and I, I notice the benefits for, not so much if you're the mother [laugh], but if you're the child of being part of a big family, and, and that whole community thing [...]." [Frances]

"Turning off heaters with my girls all the time, telling them that we, for the sake of the planet, we, we put on a few extra layers of clothes, we don't have the heaters on. Um, I mean, not totally, but – that's probably me, that's why I'm sick at the moment [laugh] – but um, yeah, and, I, I mean, but, th- these things disappoint me, like I, when I built this, this room on, *perfect* roof slope, direction for solar panels. I looked into it. It was just *too* expensive. Um, and so, you know and I have been signing petitions for the

government to subsidise that and I signed one about a few days ago, it might've been Greenpeace or something [...]." [Frances]

"It [climate change] slots into my worldview. And furthermore it hasn't surprised me because of thinking of all that pollution and our destruction of the planet. Like, and the potential for us to *stuff* up this wonderful, beautiful, fragile world, you know, that's been with me for my whole life, yeah, well not my whole life, ever since, yeah." [Frances]

"I think we're like little children *paddling* round in the sea just *dipping* our toes in every now and then and, like, um, Dick Hubbard gets solar panels put on his, um, food thing, in Mangere Bridge down the road there and he's trialling a new system where the cells are going to be more efficient and, you know, and I have a lot of respect for Dick Hubbard so, you know, individual businesses are trying things like that. [...]But, yeah, so, so, individual, and that comes down to in-, like, Air New Zealand with its biofuel stuff although biofuels I know have got their own challenges as well, Um, but, um ... so at a business level, individuals can ... encourage those sorts of things in their companies. Um, but ... hhh, it's, excuse me [cough] but, um, hhh, there's still the great big multinationals who don't give a stuff and their power and their influence is *so* much greater than, you know, a few [cough] solar panels on a roof." [Frances]

"I want to make, I'm, I'm really, um, the financial commitment is really important to me because it's is, you know, that where you money is, that's where your heart is as well, I think that principle is also important, um." [Frances]

"Yeah. Like, at work, ehm, say I'm, I don't know, treating ca- cows that have got, ehm, a uterine infection post-calving, I try and always use, like, *one* glove rather than *twenty* gloves, that sort of thing. 'Cos I *do* think about it and I do try and reduce *my* waste." [Janet]

"But, no I, I do think about water usage. I think about, ehm, journeys in the car, I recycle, I grow a lot of my own vegetables and fruit. I have chickens for eggs, I have animals out in the back that we slaughter for meat, you know, I try to keep it local. I try to use my *own* resources or people that I know, ehm, to, for things that we need to go through. Ehm, like, our first baby we had her in, ehm, washable nappies and, it didn't work for the second baby 'cos we had no way of drying them, you know, there was .. the ideals that I try to stick to but didn't always fit, didn't always master. Ehm, I didn't buy a dishwasher 'cos I was *absolutely* convinced that it would use more water and power than washing the dishes in the sink but then I did some *research* and actually it's better to use a dishwasher than to not. So, I'm open to learning and changing. Ehm. What else do I do? I try to reduce paper usage and- at work and I do try to keep waste to a minimum and, you know, nobody was recy- recycling at work and now they do, we have a recycling situation at work which is real good." [Janet]

"Ehm, but it's [the environment] *always* been a concern, I wouldn't say it's something new. I've always *cared*. And I've always grown up with nature and, I love animals obviously and all that sort of stuff, so it's not like it's a ... a new idea or -" [Janet]

"Has it [climate change] reinforced it though? [Interviewer]

"Yeah, it has definitely reinforced and it's definitely made me think, well .. there's never been a period of life that I've not *cared* so at least I don't feel bad about *that*." [Janet]

"I think that, er, communities, so my neighbourhood, could be amalgamating to share, er, *tools*, to share *travel*, to share, to share a lot more. And t- t- to reduce the new- the need for new things all of the time. I think we could do a lot more neighbourhood, like, trade, I suppose. Ehm, I think we could, a lot of the time we're probably driving to some other places or to nearby. We could lift-share a lot more. And, ehm ... yeah I think, I

think that would be a good start 'cos then from that other things could transpire that you can't necessarily predict. But that would be, I think it *has* to be [taps table] community based. I think it has to be small globules of people doing things together which may or may not all network to something greater." [Janet]

"Hhh, I don't think you can ... with one fell swoop expect a *huge* number of people to suddenly en masse generate a connection with each other and do things as one. I think it has to become-, like, we're all really close here and if there was a drive to do it, it would, it would happen. You couldn't just say, like, [town name] as a whole has to start sharing each- [laugh] [taps table], you know, that, it *wouldn't* work, I think. It has to be small communities." [Janet]

"So do you have a view on what, um, industry should be doing as a, as whole? Or do you favour grassroots movement?" [Interviewer]

"Yeah, yeah, yeah. Grassroots for pe-, ehm, sort of, eh, Joe Bloggs, you know, normal people, change. If there are industries who directly have a *big* impact on environment change or, you know, degradation to the environment then they need to have their own policies which I think th-, largely they do. That's a different kettle of fish, I think, if they're specifically going to be-, like agriculture, having an effect then they have, they definitely need to have climate change advisors or some science based, ehm, advice to go on. But, ehm, in terms of public change I think it has to be grassroots. Small community." [Janet]

"So, so is it, is it hands off for government? Is it, or, or, is there a role for government?" [Interviewer]

"I think government's role would be to have ... people who can, people who are *already in* environmen-, people in communities to become *leaders* or at least show initiative and, and start generate that change." [Janet]

"So, facilitation, really." [Interviewer]

"Yes, exactly. I don't think any *broad sweeping* political anything's going to work because nothing-, one broad banner's not going to fit any community anyway, so, you know, what might work for one community certainly wouldn't work for another. And like *you* were saying rural versus, ehm, city, you know, you can't expect the, the values to be the same, I don't think. So yeah I think it would be facilitated and, you'd have to infiltrate [laugh] all those little communities and work out why things are, what they would, what the changes could be and then *make* them." [Janet]

"On a global level? Does the same apply? [Interviewer]

"Yeah, definitely, 'cos every country's different, every culture is different, every process of how people live is different. So it can't be broad sweeping either. Except when it comes to the big stuff like the power stations or the, the rainforest. Those sort of things *are* different 'cos they're *huge* compared to just normal everyday life, I'd say. Mm." [Janet]

"I think I have more faith in carrot and stick as well. So if you grassroots and *inspire* people rather than just *taxing* people, like, and making it a negative thing- I think you'll get more results." [Janet]

"What's that facilitation from government look like, then?" [Interviewer]

"So, people who are well educated in it, so they've gone through some kind of training course as to, what *is* climate change, er, exactly what it is that communities *can* change or can do *better* and then going out and holding information nights, work days, groups,

where people can learn what they can do back in their own homes, ehm, and then, so maybe a person who's available to talk to so I could phone them and say, right, I've got a family of s- *two* children, ehm, these are the activities that we do, what are, how, what is- ideas do you have we could do that would improve our, our, ehm, part in it all and then, ehm, whether they would then ... be able to help network people to say, alright, OK, Mr Smith down the road also trying to do that so why don't you call him, here's his number, it's like, let's *get* you all together. So, facilitating communication of like-minded people and giving out information as to why others who don't know maybe much about it or care about it, why they should. Ehm, trying to *help* that building of ... knowledge, I suppose, yeah. And driving change." [Janet]

"Yeah. Um, I don't want to .. this effect too much my day to day but ... if I can not contaminate I won't. Most of the time. So, yeah. I try not to contaminate more." [Peter]

"Ahh, I try to, I don't know, turn out the lights every time I can, not because it will be too expensive, b- but because it, it c-, it contaminates. Ah, well. The, the expensive, expensive thing it's important too but not as much as the contamination. Same as the taking showers longer than, than need. Or, or I don't know things that, that that kind of things or carrying a, a piece of paper with garbage into the, to the garbage bin." [Peter]

"Yeah. Yep. Are there any steps that you're not taking now that you want to take in the future? Any, any actions that you're, you know, planning in the future? [Interviewer]

"Oh, no." [Peter]

"No?" [Interviewer]

"Not with this. I'm planning, first, I'm planning to stop eating meat some day in the future. After that maybe, maybe, I will investigate about this climate change more and be more careful." [Peter]

"Ah .. well, other people should do what they believe they do, I don't know. I, I don't care what the other people do that much. Government should maybe, ah, inform the people but, ah, at least in my country the government doesn't have too much credibility. So anything that comes from the government, people just don't follow it. So, I, I, I can't think on a proper solution for this kind of information thing. So the government maybe can, ah, add some rules for the industries, the big ones, because at least in my country, in Chile, they have really bad, ah, rules about this. Like, big companies can contaminate as much as they want but small companies cannot. Because they are big they can pay the government and they just don't look at them. Probably they, they are not being *honest* in this part. So, probably, may-, better *rules* for, for them. But for the people I can not .. ah, think of, of a good solution. I, in fact, I, I'm not pretty sure what people can do to help this situation. Ah, the things I do, it's because I *believe* it will help but thi-, I, I'm not sure if *actually* help." [Peter]

"So, for me, th-, *every* solution comes with education. But I don't really know how to make a good education since nobody believes the government and the education comes with the government." [Peter]

"If people, if people know about what the climate change will do to them or their childs, ah, probably they will change their, their ways to live but they have to *believe* first that this is actually happening. If you right now tell me that all those things are, *are* happening now and they are, ah, severe things, like, they are *really* bad things I won't believe you. Because nobody else says, say that. You are not an organisation." [Peter]

"Yeah. And this guys [referring to visual prompt] are, are going to make a conference about how the government could do a better *job* to inform people about the problem. Ah, I think .. *that's* the way how it *should* be. Not like *me* trying to investigate how to be

better. Ah, [??] it has, ah, it, it has to be the other way like, they have to *tell* me how to be better. And I, I'm going to choose if this things are good for me or not. If they make the things easier for me then, *yeah*, I will take them *definitely*. I mean, if they, for example, I have meat product, I will take this pollution thing to the meat because i- it's easier for me I been thinking on that all the time. Ah, if they put, ah, the government put, ah ... I don't know the easiest way is make the meat more expensive and the vegetables more accessible and, and *cheap* and they are, I don't know, they invent something that make them *tastier*. Ah, I don't know, they will change, people behaviour. They have the power, and the power to do anything with the people. So, yeah, they should be able to *make* people, ah, not contaminate that much." [Peter]

"That's the way to *make* things *happen*. Ah, it's not like a thing, it's not like I want to *blame* the government with, but the masses is it's how it works that the majority of the people, the government controls them." [Peter]

"So I'm changing what I'm doing and I understand that, like, for the last for t- for ten years I've worked in a corporate environment and I was, I thought that was really like the *path* for *me* and I mean this is, this is probably echoed in so many other people tha-, you know, who share the same, you know, background. But I was making products that I didn't believe in, and I loved the creative aspect ... but I couldn't really put my name to like ... making, like, say, cheap accessories that I feel weren't ... really benefiting ... others and so I've actually made, like, huge changes, like, I've gone, like ... I've really tried to follow like my creativity, like, and also, like, my values by making better products but then it's that's that journey has now taken me into, like, doing, like, an online course this year and, like, learning, like, different skills and also then placing that into ... now what do I want to do with this new direction and these new skills. And it's

still actually in *design* but I'm really driven by ... I feel like ... we've lost our creativity, like, in terms of [laugh] developing like these ... amazing skills that we could *have* in terms of, like, making our own things and ... um ... for me personally just going and buying things isn't really enough." [Quinn]

"Making changes. Looking at how I want ... to be living. And, it's, it's a process because ... it's about like integrating that with, like, quite, quite a fast paced multi-faceted life ... that I ... live, that we *all* live these days. So ... the consciousness is there.. It's just the ... the changes." [Quinn]

"So. Like I'll, I'll make juices in the morning but then I go and ... put all of my scraps like I'll spread it out, like, o- you know, on the property. So just, you know, like, it's little changes but gearing towards [laugh] like it being a full scale kind of, you know." [Quinn]

"Like what, what's the end goal for us? You know, is it ... is it beautiful homes with more stuff, is it health, is it ... you know, is it flying up in space? Are all of those things accessible if instead of going out, we go inwards?" [Quinn]

"But then I also have realised, like, w-, yeah, where are, where are we going? What, what, what do we want? Like, I have *so* many clothes but y- I feel like, you know, they *date*, they grow old, they [laugh], they have their use-by and so it's like, coming out of that consciousness of having to ... being a consumer, you know." [Quinn]

"Climate change is, is part of that then isn't it, so-" [Interviewer]

"Big time." [Quinn]

"I'm *buying* less. And I think *differently* about what I buy. Um ... I eat a lot of organic food. ... I don't, I rarely buy things that, like, from big corporations, like I've never eat McDonalds [laugh] or anything like that, um, even if it is made with New Zealand a

hundred percent beef [laugh], yeah even if it is made with a hundred percent New Zealand beef-." [Quinn]

"Um. But beyond that, not a whole lot more." [Quinn]

"So I mean it effects, I mean, yeah, like the way, the way that I shop, I tend to shop through s-, like, smaller local, ah, businesses. Um, may not all be local products, but, um ..." [Quinn]

"So maybe what we need now is, it's just like a conscious *rebalancing*." [Quinn]

"Sorry, I've m- I've go-, mind's gone off on a tangent now 'cos I'm thinking about, like, our dairy industry and how there's a lot of hormones in, in, in the milk. And ... then that relates back to our own health which then relates back to the health system and the policies that we, our government decides on for the health of our citizens. And then I kinda thought ... we're a trade-driven world and if we weren't ... if we weren't ... ma-, if we weren't selling so much milk because we had more, we didn't need ... I'm just wondering, like, if we kinda take, took more responsibility back for our own wellbeing then how much ... room is there for trade. But then ... perhaps we have, like, greater, not wellbeing, but greater affluence because we have ... like we're not spending so much on food and we're not, you know, like, our, perhaps our quality of living does actually increase with, like, a greater work-life balance and having the chance to kinda get, take care of ourselves in that way, finding that reconnection." [Quinn]

"What other policies. Well, I mean, I think something needs to be, I mean first and foremost it's fossil fuels, addressing that. [Quinn]

"Mm, mm. How should they be addressed, do you think?" [Interviewer]

"So the other thing, going back to the milk [laugh], is that because we have so many cows with their methane gas – is it methane, not ethane? Methane... You know, if we

had, like, less, kinda cows [laugh]... maybe that would also contribute in a positive way 'cos we're not farming so much too. I mean cows used to be sacred. [Quinn]

"So ... yeah. Um, so fossil fuels. Well, we need to find a much better alternative that's like a non ... is gas burnt? Gas is piped isn't it? Is gas burnt? Yeah it is." [Quinn]

"It was, like, a type of foam that would only char, not burn, between two metal ... it was like, i-, it was like, he called it metal sandwich, and the consistency of temperature in the house ... just made it so efficient in terms of energy use. And I know that, like, our building san- standards are pretty shoddy in, in New Zealand, so ... *that's* something in terms of policy that we know we're using less, he, you know, his power bills are, he has a huge house but he only pays, I mean, he relatively, like, it, it's b- building-wise it was like about four hundred dollars less per square metre to build." [Quinn]

"So, they took me on a tour and I was, like, where does all the rubbish go and, like, how do you recycle and, you know, there's a big problem there with, um ... *all* the different types of rubbish basically filling all the landfill and the oxygen can't reach it even if they're foodstuffs thrown out with general rubbish, um, they can't break down, like, paper can't break down because there's just, there's no ... th- the environment isn't there for that natural, like, decomposition, decomposing to take place and so they, I was looking at, like, textiles and fashion, um ... and just really interested in things like *paints*, like what happens to paint, it's so toxic, um, *anyway* they were saying that policies were going to be introduced about us basically having to manage the sorting of our own rubbish before it's even, before they, it's even their responsibility. And so *that's* a policy that I think needs to be." [Quinn]

"But then going a level deeper, we need to look at, how, how we're living." [Quinn]

The following extracts provide the participants' interpretations about particular climate change policies. As many of these extracts are short, they are grouped according to the policy for ease of understanding.

Government funds for energy efficient buildings:

"[T]hat's a good idea because if they, if they're designed the right way you can get more sun into the house." [Beth]

"I'll go along with that." [Eric]

"I mean we're, we're pretty bad on R and D in New Zealand. And that's, I think they increased it a little bit in the last budget but it's still a pathetic percentage of GDP, however you want to measure it, compared with many other countries. Yeah, yeah." [Frances]

"Good idea." [Janet]

"*Awesome* I mean yeah they should do *that*, they totally should do, that's a pretty good solution." [Peter]

"I agree. I think I said that myself." [Quinn]

Fuel economy standards:

"I think that the technology has been around for cars that don't need any fuel y- y, you know." [Beth]

"Yep, I'm all for that, but you see the problem, well, I guess you could say, that the petrol tax does that already because if you have a little car or your bike you don't, yeah so probably upping the petrol tax would, would work for that. I mean I think that's in place already in one sense, yeah. But also you see it all, that comes down to political will too doesn't it, but I, I, I, I don't, I think that putting up, see at the moment we, we,

we, we're paying, OK petrol a couple of dollars isn't that expensive and so therefore the negative consequences you don't think about." [Frances]

"Very good idea, yep. [Janet]

"I think vehicles, ah, works in other ways than, than, they are a particular thing besides being a contaminating mass of destruction weapon. Ah, they are *fashion*. And fashion you have to treat it, like, in other ways. Not like oh you will be a, a better person if you drive *this* car instead of *this* car but nobody will listen to you because this is the fashion car." [Peter]

Taxes on greenhouse gas emissions:

"Forget it. *Forget it*. Be honest about what's really going on. Just be honest. Don't create another tax just to tax people and businesses." [Beth]

"Yeah, it's a no brainer just, yeah, I mean, as an economist it's a no brainer. We've got the models to show what social good looks like, in terms of adding tax and adding subsidies, how they help society, it's just, yeah, yeah. I mean we do other things to help society, you know what I mean, like, like we, we have a social welfare system which even though it's not perfect, it's better than what India's got. You know, w- this whole thing about, and this is one thing that worries me about the National Party, this dumb idea that you just press the button and the market system sorts out everything. It's just garbage." [Frances]

I think it's when it comes to, so, the guys producing the big stuff like I don't know what kind of industry really, they would probably, yeah, that would be fair enough to-, aw, would it, I don't know. ... Yeah, I think it would be fair enough to tax them because it would make them become-, it'd force them to be more efficient at whatever they're doing and maybe find other ways of doing it. I don't know that'd be fair to tax day to

day people who have other, no other choice. I don't know, I don't know what makes carbon dioxide I suppose, just, the um- [...] burning of fossil fuels, yeah, exactly. So that would be use of cars and things wouldn't it? Yeah, aw, it *would* probably *work*, 'cos it'd force you to walk or to ride a bike or share, lift-share, I suppose, yeah. But you'd have to be, it'd have to be graded. It's be very hard to police that one because some people *would* be doing it, even if you owned a car you might not always use it the same as somebody else who owns a car, so you could just have a broad spectrum tax on the fact that you've got a car. It'd have to be, be able to show you are being responsible. 'Cos otherwise you'd get taxed as heavily as somebody who wasn't trying and then you'd think, aw, what's the point of trying. I just may as well burn as much fue- fossil fuel as I want, because I'm getting taxed anyway. [Janet]

"I just feel like everyone's arguing ... because it is, because it brings *money* into it and it's bringing, it's just like another [ominous] *tax*, you know. But it's, like, how do we get big business to comply? Um... I find it difficult to answer because we're not, you know, we're kinda, like, at this s- stalemate at the moment, like, globally, like, there are p-, so. Um..." [...] "I think that it would short term it would have a ... it has an impact because it makes us look at our, what our actions are." [...] " [S]o we need to obviously look at, like, the emissions and, and, and cap it. Because then that makes us look at w- what, w- what contribute to those emissions. But beyond that, what's, what's the next step? Is looking at those things that contribute to those emissions, what is, weeding out what is needed and what is an im-, what can be ... improved. And that probably goes back to what I was, we're talking about before with the more provenance locally and having a better work-life balance and actually reconnecting too." [Quinn]

Regulate CO2 as pollutant:

"Well, that's not true is it! There's the *graph*. It's like saying we humans create the pollution because we're breathing it out aren't we. You know, there's this whole *slur* on humanity from all of this isn't there." [Beth]

"Well, we do, we've started doing that already haven't we. Yep, yep. Yep, I mean, that's a no brainer too, isn't it really." [Frances]

"But it's all s-, hhhh, I don't know, 'cos it's all so, it's not just polluting activities that would generate it is it? There'd be other things that release carbon dioxide. So ... hhh, if it was industry-wide, if it was a massive industry, yes, I think that would be something to think about, yeah. [...] It'd be hard to police that one [If it was targeted to individuals], wouldn't it 'cos, again, it would come back down to usage and personal responsibility. I think if you were to put out a broad spectrum tax on stuff like that it would make the people who *do* care think 'oh what's the fucking point. I'm getting taxed anyway, or I'm being treated as if I'm bad [laugh] anyway, I might as well be bad [laugh]." [Janet]

"I think it'd be huge. But it depends on what action is been done with other pollutants, what other things that are being classified as pollutants. You know, if that has been, worthwhile, or not." [Quinn]

Subsidising Solar panels:

"I think that's a great idea. I love the idea of solar energy. I love it. I think it's fantastic. [...] [I]t's just about being *off* the grid." [Beth]

"[T]he more, more we use our natural resources rather than bloody fossil fuels, the better it is, *yes*." [Eric]

"Yep, totally. It's a no brainer." [Frances]

"Ehm, I would, I would *very* quickly do that if there was [laugh] some subsidy, yeah." [Janet]

"Oh, that's very good too. Yeah. *That* should work. But, ah, as far as I know the solar panels it, are not very efficient right *now*, they loss lots of energy like I, I can not tell the person this right now but probably between six-. They, they are good with sixty or forty percent of the solar energy, they capture. So, yeah, they, they lose lots of energy in the process." [Peter]

"Yeah, yeah, for sure." [Quinn]

Renewable energy research:

"Yep. Well, they should be putting the money into new, new technology, well, *release* the old ones to start with 'cos that's probably where the answer lies anyway. They did, in the book it said there was a scientist that did this study and he plugged these electrodes into a *tree* and it created electricity. It's electro-magnetic energy and it's available everywhere. [...] "Yeah, there's actually *free* energy available." [Beth]

"[Y]eah, I'm into all of that *already*. [...] I don't want fossil fuels. We don't need 'em." [...] "*See*, I, *look*, the oceans, as long as we don't melt our ice pack and the, and the oceans keep *moving*, we can, we can generate power from those, by having [??] which is floating down. It's total movement. Anything that moves can, c- can, cr- cr- *can create electricity*. So we don't *need* fossil fuels." [Eric]

"Yeah, that's a biggie too. Yep, that's a biggie. Yep, yep. Ban the coal, yep." [Frances]

"Mm, mm. R&D. Yep." [Janet]

"What I think, it's, er, we don't have yet, ah, any *efficient* way to produce renewable energy. Ah, like *everyone* have their, their own problems. I think, *right now*, the better one should be the *nuclear* energy that is kind of clean." [Peter]

"Depends how competitive we can be. 'Cos if we can't, you know, if we're miles behind, I don't know, [laugh] the Netherlands, the Netherlands who, you know, maybe have

already made huge advancements, but it, if ... if the, if government funding actually led to ... maybe our researchers actually w- go and work alongside and it's more like a global initiative where you get researchers working alongside, you know, other research professionals abroad. But then I guess it comes back to the local competitiveness so, is it more like working together or trying to be competitive ... you know in an area, like-. [...] Yeah, is it more about the greater benefit or being competitive." [Quinn]

Subordinate theme three: Barriers and motivations

"In fact, I heard of conspiracy theories and all this and I thought, aw, they're fanatics. That was my opinion and then when I actually s-, when I came across, when I s- ques-, the climate thing made me kind of think what the hell's going on here? 'Cos it just seemed confusing and it didn't make sense. And it put a lot of fear into me and the more I felt that fear, the more I thought ... this isn't right." [Beth]

"Say, say more about the fear." [Interviewer]

"Well, the fear of like everybody was saying 'aw, it's gonna be, there was that *Al Gore* movie, I saw *that*, and that, that, kind of triggered it but [laugh] you know when you read about it Al Gore's one at the top of it. He's, he's, he's the, hhh, Al Gore, high priest of the climate cult [...]." [Beth]

"My personal take is I love Mother Earth. I think she's the healer of all. And I think that, um, that, um, you know, we need to look after the Earth, that has been damaged by pollution and just, just, i-, i-, ignorance and arrogance of the human race, particularly of late. And that the more people that get in touch with the Earth, the, the more healing, you know, it will be. And, for, you know, for each person individually." [Beth]

"It's [climate change] a manipulation. I-, It's a very, that, even if you just read that chapter and the next one in this book, it, it just, it's very revealing about what's really

going on. Um, and basically it's just, it's just another way of, of, um, I mean it goes into, you know, like it says, stealing the world, and, and how it all, why climate change is important to *them*. You know, this, this, why making this, a, a, negative issue. Um, but I don't want to go into all that *here*, but you can see how it all fits in. The important thing is that the truth isn't being reported." [Beth]

"But I try to get people to wake up but people don't seem to, it's, it's quite a hard thing to do though. Because you have to ch-. It basically means that you're wro-, you've been *wrong* all your life. So that's a hard thing for people to cope with, the ego, you know. The ego can't cope with the-. And, and, it's against, you know, th-, it comes at a certain disloyalty to s-, s-, to *society* and to *everything*, you know, to your parents, your teachers, your-, you know, I went through, I went through a- *anger*, you know, at every, *every*one, everything, like '*aw my god*, you *idiots*, how did you let this happen?', you know [laugh]." [Beth]

"That's all covered in there. That *free* t-, free, free energy is *out* there. So if the free ene-, free energy and the technology is there, like, that was discovered in the late, what late 1800s or early, or early 1900s, then *imagine* what that technology, how amazing that would be today. I mean we'd have, all have free power in our homes. We'd all have, be driving around in cars that didn't need any, any, ah, fossil fuels. You know, if they're so concerned about climate change why don't they bring on the free technologies." [Beth]

"Um, I mean I drive a car, but ideally if I could afford one of those Prius things I *would* buy one." [Beth]

"Always important to me. I've always felt like, um, you know, I love the Earth. It's, I love nature. Yeah. I love sea, I love forests, trees, yeah. 'Cos that's, that's life isn't it [laugh]." [Beth]

"*Aw*, *no, no*. No, wait a minute, I think the, no, the pollution thing has to s-, you know, we have to try and do what we can to limit that. You know, that's just, that's just, like, you know, looking after the Earth for the future generations. That's a responsibility. Yeah, we all have that and that's what we should all be pushing. But as far as this whole climate change and all that, just be honest about it." [Beth]

"You know, there's this whole *slur* on humanity from all of this [climate change] isn't there." [Beth]

"So, letter A. 'New Zealand far from doing its fair share on climate change' [reads article out loud under breath]. OK, what I think about that is, it's good that they're actually reducing them and they have targets but 'far from doing its fair share on the global stage', well, where's the stats behind that? Who says that? You know, I think New Zealand tries really hard. It's almost like s- slur on New Zealand [telling off] 'aw, you're not doing enough'. You know, wait a minute. Where are we in the whole thing of how much we put out there, yeah. You know what I mean." [Beth]

"You want to see the proof." [Interviewer]

"Yeah, I want to see the proof. Where's the pr-, see that's what's missing here, is the proof, yeah. And that's why things like I dismiss. I just think Tim Grosser, aw OK it's Tim Grosser, what's going on and then I think aw OK. Don't know. OK, so I sort of discoun- discount it. [reads visual prompt B]. 'Clean green New Zealand falls behind Australia on climate change' – here we go again. [reads article out loud under breath]. I mean, I mean they sound like *huge* amounts. Cut Australia's greenhouse gases by twenty percent. I mean, they're big targets aren't they. Um, OK, and we've got eleven percent. They're saying that New Zealand's not doing enough. [reads article out loud under breath] Well, you know, it's sort of like beat up New Zealand and, I mean, hhh,

you know, I want to know, well, where, how, how much have we contributed to it. If we've only put two percent or one percent of the whole thing into it, 'cos I think New Zealanders are pretty on to it generally – sorta doesn't make sense. It makes me angry. I feel angry. That's B. So, getting angry now [laugh]. Watch out [laugh]." [Beth]

"But do you, do you, do you when you talk to people [about climate change] do you feel a bit, like, um, a bit sheepish?" [Interviewer]

"Yeah. Yeah. Because most people don't think like this do they? Most people don't, most people are so busy in their lives that they don't ... they don't ... look at it. I've been lucky I s'pose in that respect, I've had a bit more time." [Beth]

"I do, it [talking about her views on climate change] is something I feel passionate about but I'm a lot, I'm quite fearful of speaking out as well. But that's my kinda my own inhibitions I suppose. I just wanna [cautious] 'hmmm'. You know, you gotta be careful, because, I'm a sensitive person and if I put myself into some sort of lll- bigger *arena* I wouldn't cope with the, the, the *lashback*." [Beth]

"Aw, we've gotta look after our oceans." [Eric]

"Your coral reef is the *most* important thing. [slaps hands] It's home to small fish, and other fish feed off those little fish and other fish fe-, it's a, it's a chain reaction all the way through." [Eric]

"OK, the, the moon moves our tides. But the ocean underneath is moving through h- hot and cold, the hot and cold c- currents. With the pi- polar *shrinking*, the blackness has *gone*. So the sun now is hitting the, hitting the polar and the ice is melting. That reflection. So that's *cooling* down the ocean, or *warming up* the ocean. With the warm up of the ocean, there's no movement. *Yes*, I *am* bothered about it. It *does* worry me." [Eric]

"I believe in this planet is our mother and the sun is our father." [Eric]

"It's coming. It's coming. I think I w- as I was just say- trying to say there now, I got a feeling we, we *are* on the verge now of the s- of our planet *tilting*, another big flood." [Eric]

"We don't need to dig gol-, ah, coal anymore, we don't really need to go after *oil* anymore. We can, we can run all our vehicles. The multinationals will not give away their, their oil." [...] "Ah, b- t- d- I don't, I already told you, I don't want fossil fuels. We don't need 'em." [Eric]

"Yeah, make a difference. We *can* by cutting our, our fo- fossil fuels. If the- if, if, *yeah*, do I, do I trust the governments? *No*. If they *were* concerned, they would say OK, bugger, bugger the cost, we'll just do it." [Eric]

"Aw. I think .. we, we, we would, if we stopped burning fuels, if we started going on everything, every vehicle and this, this is where the government, that could *work*, but the government's got to pay for this bloody change over. They'll allow no petrol vehicles in to the country. Diesel *or* petrol. Just, and subdivise [subsidise] the changeover too." [Eric]

"So governments have got to take the lead." [Interviewer]

"*Yeah*, they've *got* to. Look the cars are there *now*. The cars are there, which, do you, you don't need to *drive*. They drive themselves. There don't need to be nose and tail accidents because it is automatic braking when you get too close to a car." [Eric]

"That's why I'm pessimistic because a) people aren't believing it and b) when it comes to the crunch- actually I've got another reason as well why I'm pessimistic – when it comes to the crunch they don't actually *want* to change and that's why I think governments

have to absolutely to take the rule, um, with you know extra taxes and things so that the real cost of production of things is reflected in the cost people pay." [Frances]

"I, I guess we try and live in a, I mean I, my own lifestyle I'm trying to simplify and um, but then I'm really aware that I'm, I'm a 'have', I own my own house, um, you know, I, I've got set up so ... um, it's, I'm one of the really privileged people in the world. I own a fridge which puts me in the top three percent or something, you know. So, yeah, but owning a house in Auckland and being a baby boomer, um, I'm extremely privileged even in a New Zealand context, let alone a global context and so that's partly why I feel the responsibility to, um, you know, to speak, and to sign petitions, and all that stuff." [Frances]

"And, and also it's no good saying 'look, this is terrible, and this is terrible and aw, this is so bad, awww'. You know, well actually, like leadership, you've got to give people some hope and furthermore if you're going to be an effective leader you've got to have done some pretty, um, hard core analysis of what changes need to actually happen so that it's no good telling people that it's all bad. It's no good saying to people 'look we need to do more' if, without actually saying 'this is what's needed'." [Frances]

"Um, well that university work at Victoria all those years ago ... caused me to notice more stuff I think and, um, I mean I'm basically, I've always, um, been drawn to the whole idea of the simple lifestyle because, um, and, and I really still like the idea of living in a commune ... hippy at heart and in the hippy movement, even though I was a bit young to-, I wasn't, you know, I came a little bit after that, I still, it still, um, that got me thinking a lot too in terms of our values, um, because I still think that we actually need *another* hippy movement to get rid of, to clear out all the technology, the crap, our

brains and everything, to, to clear out our, um, ... sort of that entitleitis thing about what material comforts we're-." [Frances]

"I have two Chinese home-stays which cause me much, they're lovely girls, they're intelligent girls both of them but boy when I look at their attitude to rubbish, I look at all the food they buy that they don't even eat, things like that I just ... it's *really,* that, that frightens me because they're a microcosm of, you know they represent a whole generation of Chinese who don't get it."

"I'm also *really* aware of the, the geopolitical, kind of, implications of that and ... already, um, you know there's Pacific Islands where the pris- rising sea level, but, but, who is it affecting? It's affecting the poor and so, I just, um, already, um, I see wealthy nations, like the US of A [motions finger down throat], vomit, vomit, [laugh] just in case it's not recorded [??]" [Frances]

"There's no visual image there - Vomit for the recorder [laugh]." [Interviewer]

"Yes, um, if- already, they are *so* immoral and have been for years in terms of, you know, land of freedom but they'll go into any country they want and grab their oil if they want it, they'll manipulate, you know, governments, they'll, they'll fund terrorists if they don't like the government of the, you know, the government of the status quo isn't actually letting them have access to oil or whatever." [Frances]

"We could do a project on anything at all, in social studies. And the first one I did was apartheid [laugh] and the next one I did was world hunger so I can see right back as a thirteen year old I was *really*, I had, probably an above average awareness of, of inequality, and so, um, yeah, so this is just all, that's, that's part of what *really,* really concerns me but once again, as I've said before, it's the little people of the world who will be, um ... I, I use the word *extermination* actually because I think it's as *sick* as that.

Um, the *greed*, and the, the self-centredness, and the, um ... yeah, the, the attitude of, and just the *complete* lack of humanity that's there." [Frances]

"Um, and the same with New Zealand, I don't want to live in a world where you know New Zealanders have got it going, you know we're onto a good thing and there's chaos and, you know, I see myself as a, a global citizen very much and I don't, I'm not really a strong patriot, I love New Zealand but I don't think, yeah, I care about what's happening in other countries as well." [Frances]

"I think I accept that the world is very sick and very broken and I will do ... what I can, little me. Like, at one level my life is really, really important and I've got a responsibility to *use* my resources and whatever I can to try and be a positive influence in this world but another level I'm, I'm worthless and nothing and a little *blip* in the history of the human race and, you know, um, so I hold those things togeth-, you know, that's part of how I see myself, and my role. So, when I die, um, um, I hope that I've left the world a better place [...]" [Frances]

"[W]hen push comes to shove, it's, it's not a worldview that's, to me anyway, particularly, um, compassionate, and I, I mean I obviously, I come from that Christian framework where the idea of laying down your life for your friends is really, um, *really* essential and important and, with climate change and global inequality, um, if your, hhh, if your f- sort of way of understanding life is that, which seem to b-, which is a lot of these sorts of, in these, this sort of level of society where, you know, you're working in, like, say, say for example the finance sector, if your philosophy of life is that 'if everyone just works hard and tries hard, um, and, you know, life will turn out well and that you can just um, you know, you've worked hard so you're entitled to this lifestyle, um, you've, you've really, um, you know, taken more risks than other people, you've,

um, sure you've perhaps been a bit lucky but it's mainly because you've done the right things that you're in this, um, highly privileged position, and you only mix with people who are also highly privileged, you can't a single poor person, you don't really believe that they exist because, um, you know, they're just lazy and um, you know, John Key came from a state house background – *oh my word*, all that kind of stuff, so, so, you actually, i-, i-, for all of us, we only ever mix with people who are like us, it just reinforces our worldviews and that's a *real* concern, and, and that's part of you know the way we live now as New Zealanders, we, it seems to me that, you know, the wealthy, it's not that they're evil people, they're just *ignorant*, and they *genuinely*, they *genuinely* don't know there are families who, um, are just *struggling* to feed their kids and, um, yeah, it's, it's, yeah and that's, yeah." [Frances]

"It's not just the optimist but, um, I mean my *faith* informs very much my worldview. Um, and so in terms of my faith, um, I will try and live the best way I can as I understand that. Um, I'll try and do the best I can. Um, I'll try and be a good influence in the world. I'll try and live my life in a way that's, um, yeah, or being a good influence is one way of putting it. But I don't put, yeah, I don't hold out that much hope." [Frances]

"I, when I built this, this room on, *perfect* roof slope, direction for solar panels. I looked into it. It was just *too* expensive. [...] [L]ike, there are some people that can, but I can't, um, because I haven't got a high income and, so, um, that really disappointed me, to, to realise that, you know, f- that I wanted, that wher- what I would have loved to have done but until, like the government, yeah, actually *gets* the significance." [Frances]

"Um, and I think it's, we've just come back in a circle too it's that inconvenient truth, and oh shock, horror, I might have to give up my annual trip to Hawai'i if this is real, or I might have to stop, um, getting a new phone even though everyone else has all the

time, I might have to actually not, you know, um, buy new shoes every six months or, you know, I might have to walk and, you know, not, shock horror, you know. So, it's, it's that human resistance to giving up comforts [...]." [Frances]

"Ehm, feel, well, I do think about it a lot and I do feel *bad* about it and I think it's, hhh, easy to feel guilty and take it on yourself and think aw my god, wher- I'm a human and therefore I am to blame for part of this, and then another part of me thinks well, say I was to, ehm, become completely independent of the, of, you know, the huge generation of waste, and not using fossil fuels, would that make *any* difference. 'Cos I am one out of *billions* of people. So, therefore you can square it away and think I'm not really going to affect any change anyway therefore it's not my ... direct issue. [Janet]

"'Cos I *do* think about it and I do try and reduce *my* waste. But then there are times when you just, you can't, there, there, the way that things are set up then you generate waste just by ... existing and you have to have a job [laugh] and you have to feed the children and all that sort of stuff, so. And you have to drive a car that gets you to work that's got to be able to drive four-by-four, you know, terrain and all that sort of stuff." [Janet]

"Ehm, but Obama has a fairly, ehm, you know, personable sort of guy, I reckon, that'll really help. ... But I don't really listen to politic- politicians much [laugh] [taps table]. Not particularly, it's not my kettle of fish. I would *much* more rather listen to scientists or, ehm, friends and personal, you know, associate rather than. I don't read *anything* political. I don't particularly watch the news [laugh]." [Janet]

"Don't, it doesn't feel hopeful. It doesn't feel like we've got much that we can do, other than ... know that for yourself you're doing the right things by climate change. I don't know that we'll create enough tide of movement to sort it out really. Yeah. And if *we*

do, that's us. What about Russia and China and America and all-, it just seems like too big of a challenge to sort it out." [Janet]

"Yeah, I have, I have, well *yeah*, yeah I've instigated some things and I've talked about *our* place on the farm and wha- how we're doing things and sharing lifts when we can all work together with, you know, if we've got three guys going to the same job we'll go together rather than three vehicles. Ee, so there's definitely the, and a lot of it interestingly ties into, ehm, business money saving as well because reducing waste and reducing the use of vehicles and, ehm, thinking about how we use product, ehm, all ties into business sense anyway so. Ehm, it doesn't, it's not a hard one [laugh] to kind of push." [Janet]

"So it's not, it's not, like a hair shirt type thing. It's, it makes good sense." [Interviewer]

"It actually makes good sense, yeah, exactly. Ehm, so you don't have to sell it on climate change, you can sell it on business sense." [Janet]

"I think it's my children and their children that it would affect. I don't know that it would necessarily affect me, because by the time things start [laugh] falling to bits I'll be old and senile [laugh] and not particularly bothered or aware of it hopefully. [Janet]

"Do you see climate change as happening *now*?" [Interviewer]

"Yeah, I think it's happening now. But I don't think that our, I don't think the n- the end result or the many of the end results will affect us as this generation. I think it will be the next generation. I think, yeah. All it will affect us now is that the politics around it will *change* and the intensity of our relation to it will change so that we may start, ehm, paying for, or being privy to the ... cost of it, I suppose, and to having a say in how we change what might be the future, but I don't think. You know, if things keep going as they are then it won't, I don't think it affects us, I think it affects our children." [Janet]

"Yeah, I mean I, I grew up walking the hills and mountains in Scotland and Europe and I've come here and I walk and I go in the bush and I surf and I enjoy being in the sea and, you know, and that's real big part of my identity, and my *love* for being in the mountains and all that, so I want to impart that to my girls and them to be able to enjoy those things too and not be up a hill going 'aw, look all that's been deforested and there's a big *scar* on that hillside and there's a quarry over there and there's a, you know, that would, that would be sad if they don't ever just be in the middle of nature and not know human-." [Janet]

"To not think about it [climate change]. Is like when you buy something from a shop, it's packaged in so many layers and you can have it in a plastic bag, it's just *easy*, you know, yep. You know, you're not going to go around, ehm, unwrapping everything, you're not going to stand up and fight for every packaged [laugh] thing and say I'm not buying-, you know, that's, it's easy, it's easy to *not*, and, ehm, it's easy to detach and chuck something away and not think about where that might end up or who's going to deal with it or where it, what it might do to the environment. Er, it's easy to buy processed food, it's easy to, you know, there's lots of stuff that's easy. Easy to jump in the car and drive places and not walk or to, you know, that sort of thing. So. Unless you're conscious. Then it's easy to not have to think about it." [Janet]

"And conversely, by the sounds of it then, *hard* to think of." [Interviewer]

"Always, yeah, definitely. You have to. You have to want to, to consciously think about it and to make changes. Ehm, I guess the world we live is *so* fast moving and you're expected to be all of these things all of the time that climate change and your effect on nature can be put down the list of priorities very easily. And you can think oh I've got so

much other stuff to do I don't have *time* for that, or the *money* for that, or the whatever it is." [Janet]

"Because, yeah, I know I could be part of the solution but I choose not to because it's a little harder to be part of the solution than be part of the problem." [Peter]

"Yeah, yeah [laugh]. What's *hard* about it?" [Interviewer]

"Ahh, probably, I, I don't know, but probably I will have to *stop* my contamination. I will have to lower my pollution levels and be care about what I buy. That things I cannot buy because they make pollution so if I support them I am making pollution. That kind of things, like being a vegetarian but with the pollution, instead of the meat. Like keeping my levels of the, the, the amount of water I use lower than or, I don't know ... using bicycle instead of cars and all that kind of stuff, stuff." [Peter]

"But I always came with the same, ah, with the same answer. Like, it's *too* hard. I'm one *person*. My changes won't affect that much. Ah, probably, I *could* do more. Yeah, you can always do more but I'm worry about other stuff, like .. *myself* [laugh]." [Peter]

"Oh, ah, the thing is, if the Earth is too hot to grow some seeds, ah, it's not like we are in three centuries ago. We, we won't move our place to another proper one. We will modify the place to be able to, like, Monsanto, they make, ah, ah, pesticides that are probably killing our pests but besides that they are, they are making plants that are stronger against lots of things. Ah, so yeah, they probably can come out with plants that are stronger against heat. The *same* plants. So that's, that's why I, I'm not caring that much about it because I, I believe a lot in technology." [Peter]

"Well it's I, I having hearing, as I told you, like, thirteen years ago, hearing about this for the first time so, yeah, it's happening now. But since we don't see the problems on the TV or, or then come on websites, probab-, it's probably not that big yet." [Peter]

"It doesn't matter what government I think *every* government it's is just *bad* and I hate politicians, sorry, you are going to be in politics." [Peter]

"If people, if people know about what the climate change will do to them or their childs, ah, probably they will change their, their ways to live but they have to *believe* first that this is actually happening. If you right now tell me that all those things are, *are* happening now and they are, ah, severe things, like, they are *really* bad things I won't believe you. Because nobody else says, say that. You are not an organisation." [Peter]

"Because it's [acting on climate change] too *hard*. I will have to change my life in a way that is, it will be *less* comfortable. The same as being vegetarian. I know it's a *better* thing but it's a *difficult* thing to make.

"So, it's about comfort? Is there anything more material?" [Interviewer]

"It's, um, more, more like selfish thing." [Peter]

"Anything more concrete that-. OK, so it's a, it's a, it's a feeling, like, it's it's just *easier* to do that than, than not." [Interviewer]

"It's easier being part of the problem. I know, I, I try not to but I not try *too* hard." [Peter]

"They [government] have the power, and the power to do anything with the people. So, yeah, they should be able to *make* people, ah, not contaminate that much. [Peter]

"Yeah. Yeah. So put the incentive in place to, to, to make the change, and you'll do it." [Interviewer]

"That's the way to *make* things *happen*. Ah, it's not like a thing, it's not like I want to *blame* the government with, but the masses is it's how it works that the majority of the people, the government controls them." [Peter]

"I would say ... [laugh] I'd say it's [the trustworthiness of climate change information] fifty-fifty. 'Cos I think that, like, you still get people who are, say, academics who will put th- out their point of view through v-, you know, these various sources but, um ... I'm not sure how much of it gets ... sort of what's the word ... I'm not how much of it makes it through. You know, if they're wanting to push like one sup-, one viewpoint more than another and just allowing, like, a certain amount of other voices just to give the perception of, like, a balanced debate." [Quinn]

"OK [laugh]. So, I, I mean I do wonder if there have been certain ... technologies that would advance ... our species, our civilisation that have been suppressed because we've got pretty big interests. Um ... I kinda feel like behind the scenes politics is like a game of, like, it's a crony game, like ... money speaks." [Quinn]

"I guess with climate change, I just, it's more with *me* like I have an inherent ... concern for Mother Nature. Um, and that's something that's been coming through quite strong for me recently because ... I've looked to nature for my own *wellbeing*." [Quinn]

"Um, in getting my health *right*, and not following the path of, like, conventional medicine which I knew wasn't right for *me*. Um ... you know, making lifestyle changes, all of those sorts of things. Um ... and ... I feel like there's a *greater* source of, like, intuitive wisdom there that we've probably lost because we're letting m- machines and things do the thinking for us whereas I've sort of unplugged quite a lot and I've gone sort of the other way in thinking about how I'd like to reconnect, um, with *myself* and develop my own awareness." [Quinn]

"Well, here's a small example, which is ... like, I've been doing a lot of cooking over the last, like, well I mean, I do cook a lot anyway, but, one of the, like, h- a ... a position that I came to was ... I look to nature ... for wellbeing, and for healing, and nurturing ...

and I do that through food being medicine ... and then, I take all those natural foods and I put all this food scraps in the bin 'cos I don't have a compost ... [laugh] and I was, like, this feels like it's a one way relationship ... how can I expect to be take and not give back." [Quinn]

"And also, like, it's actually, I mean we live in this environment here but, and it's rural but we've always been, like, i- from, we've always been in the city and so ... like, the two people that I live with are kinda set in their ways. I- it's a different generation, they're not particularly like, they like the surroundings but they're not out in the garden and ... and that's something that's now coming through with, with me, I'm wanting to make changes and um ... So. Like I'll, I'll make juices in the morning but then I go and ... put all of my scraps like I'll spread it out, like, o- you know, on the property. So just, you know, like, it's little changes but gearing towards [laugh] like it being a full scale kind of, you know." [Quinn]

"It's quite, it's really hard to, like, turn the mirror back on yourself and look at your own behaviour. Um, like, I won't *not* catch d- an aeroplane [laugh], you know. [laugh] Like, I'm going to be catching one of those until there's, ah, further improvements in that, you know. I mean t- t- there's no way that, sorry, not further improvements, but like I won't ... live in a complete bubble. Without, without, you know ... those modern day ... things." [Quinn]

"I feel like, um, like, fossil fuels which is probably about the greatest contributor, the most detrimental is, like, um, like what, what can we do if don't know about the new technologies. Like if the government isn't in our interest and they're not releasing ... I mean the *greater* government, the world government, is not releasing things that .. could

be in our interests then of course we're in the dark and we don't, we *don't* know."

[Quinn]