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Creating Sustainable Workplaces Together: Employee Relations Practice and Environmental Management

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Postgraduate Education and Previously Published Work

I hold a Bachelor's degree in Sociology with a minor in Political Studies from Thompson Rivers University (2007), British Columbia, Canada and a Master's degree in Management from the University of Edinburgh (2009). My master's dissertation titled, HRM Practices and Environmental Management: An Exploratory Case Study of a UK City Council, began my academic interest in sustainable low-carbon practices. As lead author, I have published a book chapter on human resource management for the edited text, '*The Psychology of Green Organisations*' (2015) published by Oxford University Press, and also presented at numerous national and international conferences including the International Studies in Working Life Doctoral Colloquium at the University of Gothenburg, Sweden (September, 2012), British Universities Industrial Relations Association Annual Conference at the University of Strathclyde (June, 2013), Second Annual Sustainable Business Mini-Conference at the University of Edinburgh (May, 2014) and First Annual CIPD Applied Research Conference at the University of Warwick (December, 2015).

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Abstract

The aim of this research is to examine how employee relations enables and improves environmental management in the workplace. The objective is to understand the dynamics around the relationship between existing HR practices, individual and collective employee relations and environmental management, as well as to explore the opportunities for management-union partnership working and mutual gains.

This research employs a mixed methods approach in which qualitative and quantitative data were collected in six public and private sector organisations in local government, health, higher education, transport and energy in Scotland. To establish context and identify key employee relations processes under investigation, the research design incorporated extensive fieldwork, such as selective semi-structured interviews and focus groups involving eighty-seven HR managers, environmental managers, line managers, union representatives and employees.

My contribution to the field of human resource management (HRM) is to demonstrate the importance of employee relations in supporting environmental management, and to show that partnership working and mutual gains can be a feature of a sustainable workplace. The evidence from this thesis shows that high-quality employee-manager relations and active engagement involving managers, employees and trade union representatives can influence environmental outcomes in the workplace. This thesis indicates a strong association between the implementation of sustainability initiatives and employee involvement and participation (EIP).

Methodological contributions are made by adopting a mixed methods approach, including focus groups, to gather data from multiple stakeholders to understand how employee relations influence environmental management in the workplace. Empirical contributions are made to the nascent body of Green Human Resource Management (GHRM) research relating to the drivers of and barriers to change, the unintended consequences arising from some HR practices, and the potential for mutual gains in a sustainability strategy. This thesis provides an alternative approach to much mainstream GHRM research, in that it is more inclusive for it gives voice to all workplace stakeholders.

Contents

List of Tables

List of Abbreviations

The following table describes the meaning of various abbreviations and acronyms used throughout the thesis. The page on which each one is first used or defined is also given.

Abbreviation	Meaning	Page
ASLEF	Associated Society of Locomotive Engineers and Fireman	65
BIS	Department for Business, Innovation & Skills	64
CAPX	capital expenditure costs	128
CBI	Confederation of British Industry	44
CLC	Canadian Labour Congress	22
CMP	carbon management programme	96
CO2	Carbon dioxide	17
CRC	carbon reduction commitment	114
CSR	corporate social responsibility	15
CSV	creating shared value	15
DAS	driver assistance systems	126
DECC	Department of Energy & Climate Change	64
EIP	employee involvement and participation	9
EMAS	Eco-Management and Audit Scheme	162
EMS	environmental management system	17
ETUC	European Trade Union Confederation	15
FLMs	front line managers	27
GHG	greenhouse gas	73
HSE	health, safety and environment	138
ILO	International Labour Organization	15
ISO	International Standard for Environmental Management	36
JCC	joint consultative committee	182
kWh	kilowatt-hour	147
LCWS	low-carbon work system	5
NAFTA	North American Free Trade Agreement	19
NHS	National Health Service	67
NSS	National Services Scotland	67
OHS	occupational health and safety	45
PAS	performance appraisal systems	34
PBR	payment by results	180
PEP	pay for environmental performance	179
PRP	performance-related pay	149
RMT	National Union of Rail, Maritime and Transport	65
SFOL	sustainability-focused organisational learning	29
SMEs	small and medium-sized enterprises	24
TSSA	Transport Salaried Staffs' Association	65
TTIP	Transatlantic Trade and Investment Partnership	19
STUC	Scottish Trades Union Congress	22
TUC	Trades Union Congress	15
TUSDAC	Trade Union Sustainable Development Advisory Committee	44
WCED	World Commission for Environment and Development	2
WERS	Workplace Employment Relations Study	85
WPEB	workplace pro-environmental behaviour	2

Chapter 1

Introduction

This introductory chapter provides a conceptual, theoretical, and methodological foundation for research on sustainable workplaces. Discussion commences with an introduction to climate change and establishes the importance of the workplace as a site for implementing environmental improvements to address carbon emissions. It then continues with a brief discussion of different definitions and perspectives on employee relations before introducing the emerging field of Green Human Resource Management (GHRM).

The case is made for a more inclusive and managerially focused understanding of employee relations that encompasses both individual and collective dimensions of the employment relationship. By doing so it focuses on how managers and individual employees and managers and unions representing the employees, both informally and formally, contribute to environmental sustainability in the workplace. The study examines the characteristics – individual and collective – of the employment relationship and the types of HR practices that can impact on environmental management goals and objectives. This chapter establishes the rationale for the research by highlighting the gaps in the current body of knowledge on environmental sustainability and employee relations and identifies the methodological implications for this thesis. It then proceeds to outline the objectives and primary research questions of this thesis. The chapter concludes with a summary of the principal issues raised and a synopsis of all forthcoming chapters.

1.1   Background to Research

In the early 21st century, sustainability has risen to the forefront of thinking in almost every subject within business and management (Docherty, Kira and Shani, 2009). For many outside business and management, climate change underpins the ideological scaffolding on which much contemporary public discourse rests (Klein, 2015). In a democratic society, in addition to the economic motives, 'social legitimacy' helps explain the strategic behaviour of managers (Boxall and Purcell 2016: 13). Organisations operate in societies in which there are laws and regulations that aim to regulate the strategic behaviour of managers. Therefore, some degree of social legitimacy must also be seen as a motive in environmental management. Pertinent to this thesis, climate change could be a galvanising force for organisational change as it generates 'higher expectations of leadership on social and environmental standards for more systematic solutions from governments, industry and other stakeholders' (Moffat and Auer, 2006: 89).

This thesis focuses on a single aspect of sustainability—environmental sustainability. Sustainable development has been defined as meeting 'the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987: 43).[1] Environmental management is an attempt to control the human impact on and interaction with the natural environment in order to preserve natural resources. At the organisational level, corporate environmental performance refers to 'organisational performance in managing natural resources and the natural environment in the process of conducting business' (Ones and Dilchert, 2012: 450). Corporate environmental performance includes both environmental outcomes and the pro-environmental initiatives that organisations implement. The former represents the ecological impact or 'footprint' of organisational activities; the latter focuses on what organisations do for environmental sustainability. In the workplace, this includes encouraging energy efficiency, encouraging waste reduction and recycling, encouraging water conservation, and encouraging employees to use alternative low-carbon forms of transportation (e.g., bus, train, or bicycle). At the individual level, transformative workplace pro-environmental behaviour (WPEB) can be defined as 'a systematic set of actions from a collective network of organisational actors spread across a company, team, and/or value chain' (Kennedy, Whiteman, and Williams, 2015: 370; Boiral, Paille, and Raineri, 2015). For employees, this entails changes to existing job duties,

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1. Environmentally focused reports, for example, the United Nations' Our Common Future (1987), commonly referred to as the Brundtland Report, have played a pivotal role in the development of sustainability concepts.

additional role requirements, and in some cases the creation of entirely new occupational opportunities, such as environmental manager (Ones and Dilchert, 2012: 449).

Given the multiple-layered complexity of the subject matter, this thesis brings together distinct streams of literature that have not been brought together before to focus on environmental sustainability and employee relations in the workplace. The thesis title: '*Creating Sustainable Workplaces Together: Employee Relations Practice and Environmental Management*' was chosen for a purpose. Although some academics argue that there is no hard and fast distinction between 'employee relations', 'industrial relations' or 'employment relations', and use the terms interchangeably, there is a tendency for each term, particularly in the case of employee relations, to place the subject's primary focus within different boundaries (e.g., Blyton and Turnbull, 2004: 9; Marchington and Wilkinson, 1996: 223; Leat, 2007: 4-7).

Historically, there have always been 'intellectual and ideological divisions' (Farnham, 2015: xvii) between the study of the individual and collective employment relationships and the relevant literature outlines the evolution of the field of 'employee relations' away from the traditional field of 'industrial relations'. It is argued that employee relations provides a more inclusive and managerially focused field of study that encompasses both human resource management (HRM) and industrial relations: the former focusing on the study and practices of the individual employment relationship and the latter addressing the dimensions of the collective employment relationship. In more recent times, the distinction between the subject boundaries between employee relations, industrial relations and contemporary employment relations has become increasingly blurred following the ascendency of HRM in Anglo-American economies that coincided (not unconnectedly) with the collapse of trade union membership and collective bargaining (e.g., Blyton and Turnbull, 2004: 10; Brown, Bryson, and Whitfield, 2009: 354; van Wanrooy et al, 2013: 1).

In adopting the term employee relations this thesis is better positioned to engage with the individualist orientation of mainstream environmental management. By doing so it examines how employees both individually and collectively, informally and formally, and in different contexts contribute to environmental sustainability in the workplace. It focuses on investigating how HR policies and practices, in all their manifestations, as well as the enablers of change - leadership, organsational culture, employee participation - facilitate and support environmental management goals and objectives. The term 'employee relations' has a variety of meanings.

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Gennard and Judge (2002: 18), for example, in their text for the Chartered Institute for Personnel and Development (CIPD) provide the following definition:

> Employee relations is a study of the rules, regulations and agreements by which employees are managed both as *individuals* and as a *collective* group, the *priority* given to the *individual* as opposed to the collective relationship varying between companies depending on the values of management. Employee relations management is also about ensuring that organisational *change* is *accepted* and then *implemented* [emphasis added].

The above definition identifies the subject matter to include both collective and individual aspects of the employment relationship but priority appears to be given to the individual employment relationship. The authors endow the term employee relations with a managerial focus to ensure 'change is accepted and implemented'. For Leat (2007: 7), employee relations:

> '(E)ncompasses both individual and collective dimensions, union and non-union relationships, the changing nature of work and the employment relationship, and the wider contexts within which the employment relationship occurs'. He adds, 'I do not take a managerial perspective or standpoint'.

Both Gennard and Judge (2002) and Leat's (2007) definitions appear to see employee relations as a wider concept than industrial relation by encompassing both individual and collective, and union and non-union relationships.

Farnham (2015: xviii) adds to the debate by his use of the term 'employment relations', which he observes is a 'dynamic' wide-ranging subject that includes:

> 'The individual and collective faces of employment relationships…it incorporates a wide variety of forms, structures, practices and insights, compared with the "golden age of labour" in the mid-twentieth century'. He adds, 'there is no single trajectory of employment relations… but a series of complex, contradictory ones, consisting of a multiplicity of faces, practical approaches and theoretical perspectives within its subject area'.

Thus the literature affirms a number of different definitions and perspectives. For the purpose of this thesis, *employee relations,* with its various practical manifestation, is used to encompass the management of the employment relationship, in its individual and collective forms. This perspective encompasses both union and non-union relationships; different management styles, the changing nature of work, and the internal context within which employment relations is situated. What is clear from the above definitions is that the core subject matter of employee relations is the employment relationship and its management. Therefore, contemporary employee relations as a field of study provide an appropriate analytical focus for researching the influence of employee relations on environmental sustainability in the workplace.

While there is extensive research on technological solutions and macro-economic analyses of the impact of environmental policy on competitiveness and employment, the engagement of employees and the role of trade unions has been downplayed or neglected (Stroud et al., 2014;

Hampton, 2015; Lund, 2004; Mayer, 2009; Storey, 2004). For example, Cox et al.'s (2012: 1) research on Scottish workplaces argues that, 'There is limited guidance available to help workplaces support employees to adopt low-carbon behaviours and the evidence on effective interventions is not robust'. That organisations are both part of the problem as well as part of the solution to carbon accumulation is not in doubt. The question, however, remains: to what extent do people-oriented management practices, rather than simply technology-orientated solutions, contribute to changing behaviours that can create low-carbon workplaces?

Scholarship investigating the nexus of HRM and environmental management has been called green human resource management (GHRM) (Renwick, Redman and Maguire, 2013; Jackson and Seo, 2010). An early contribution was the Walter Wehrmeyer (1996) edited book, *Greening People: Human Resources and Environmental Management*. In theory, HRM is associated with a distinctive organisational culture and set of best HR practices, which aim to recruit, develop, reward and manage people in ways that create a sustainable commitment to what is sometimes called a *high-performance work system*. This suggests that there exist a bundle of HR practices that generates superior organisational performance (Boxall and Purcell, 2011). Extending the concept of the high-performance work system to include environmental sustainability, a low-carbon work system (LCWS) has been defined as 'a planned approach to organization design, culture, and HR practices to deliver low-carbon outcomes in the workplace as well as to align the organization and its processes to achieve innovation and sustainable high-quality results for the organization, workforce, and customers' (Bratton and Bratton, 2015: 277).

A low-carbon workplace requires new roles and low-carbon behavioural activities for managers and other employees. Low-carbon behaviours occur at three levels: individual, social, and material (Cox et al., 2012: 34). This perspective draws on Fox's classical terminology that makes a distinction between 'material' technology, that is technology that can be 'seen, touched and heard', and 'social' technology, which 'seeks to order the behaviour and relationships of people' (Fox, 1985: 13).   Individual level influences act on individual motivations (e.g., personal rewards); social or group level influences act on employees when operating in teams or groups (e.g., social norms, shared understandings and communities of practice); and material level influences act on organisational structure and processes (e.g., products, technology, environment). Cox's et al. (2012) research suggests that behavioural interventions tend to be most successful when they consider these three contexts—individual, group, and material—holistically, and not simply focus on trying to change individual employee attitudes or just

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installing new technology. In other words, when establishing an environmentally sustainability workplace the goal should be to take an integrated approach that raises awareness and improves understanding with individual employees and groups, builds social meaning and norms around low-carbon or "sustainable" working practices, and supports employees with the technology they need, backed up with consistent policies.

Although the evidence base on low-carbon behavioural activities is not well developed, the extant studies suggest that corporate environmental sustainability initiatives were more successful in organisations that were seeking to embed shared values about the importance of environmental sustainability into the organisational culture (Cox et al., 2012). Jackson and Seo (2010: 278) report that 'the topic of environmental sustainability is not reflected in the research agendas of most areas of management scholarship. The field of [HRM] is one of the minimally engaged areas of specialization.' Just how important HR policies and practices are in helping us to understand how low-carbon behaviours can be nurtured and embedded in an organisation is a key focus of this thesis. This thesis addresses a number of questions, some of which are essential to our understanding of how managers, workers and union representatives behave in the contemporary "sustainable" low-carbon workplace", and the role of employee relations in "greening" the workplace.

1.2   Rationale for the Research

Creating sustainable low-carbon workplaces is critical to reducing carbon emissions and addressing climate change phenomenon. To examine the role of employee relations in creating low-carbon workplaces this thesis seeks to address significant gaps in the current body of knowledge on environmental sustainability and employee relations. First, though there have been a number of valuable studies of HR practices and environmental management (e.g., Jabbour, Santos and Nagano, 2010), none of these studies examines how employee relations influence environmental management outcomes in the workplace. Second, while there has been some research on the role of trade unions in contributing towards environmental management (e.g., Lund, 2004), little has been written about union-management partnership and opportunities for mutual gains (e.g., Budd, 2004; Kochan and Osterman, 1994). Third, the extant green HRM literature tends not to give due significance to broader socio-economic dynamics (e.g., Davis and Coan, 2015). These GHRM studies generally downplay or ignore the context of wider social dynamics of the workplace and the varying degrees of agency of individual actors involved (Thompson and Vincent, 2010). Fourth, the majority of studies have been in the large

manufacturing firms (e.g., Jabbour et al., 2010), and public sector organisations have scarcely been at the centre of environmental management studies. Finally, the GHRM studies do not sufficiently acknowledge the limitation of using quantitative research methods to understand complex employee relations in the workplace and how these interact with environmental issues.

The limitations of GHRM studies can be grouped round five issues: the implicit assumptions made about the nature of the employment relationship; insufficient attention to the importance of context; insufficient recognition of alternative voices, particularly employees and unions; and an over-reliance on self-administered surveys and single-responders (typically HR managers); and the 'fatally flawed' (Wall and Wood, 2005) assumption that HR practices are translated by line managers into actual practices. This thesis aims to be inclusive and recognises the need for multiple voices. Acknowledging the methodological downside to only using quantitative surveys to examine complex workplace human relations, it has the benefit of eliciting the views of front-line managers and other employees on *how* the employment relationship mediates environmental outcomes, and *if* HR practices are actually enacted. The use of qualitative techniques provides richer and more meaningful data when conducting context-sensitive workplace employee relations research.

1.3   Research Objectives

The aim of this thesis is to examine the role of employee relations in enabling and improving environmental management in the workplace. It studies how HR practices contribute to environmental goals and how direct and indirect, informal and formal forms of employee voice impact on environmental sustainability practices in the workplace. As part of understanding the context of management practices, it identifies the key drivers, stakeholders, benefits and barriers to workplace environmental sustainability. This thesis was conducted in six public and private sector organisations in local government, healthcare, higher education, transport and energy located in Scotland.

The principal research question is: '*How do employee relations influence environmental management in the workplace*?' The objectives are to understand the dynamics of the relationship between HR practices, individual and collective employee relations and environmental management, as well as to explore the scope for partnership working and mutual gains. The research examines a bundle of HR practices including selection, rewards, appraisal and training that can influence employees' attitudes and behaviours. Further, as voice is an essential component of cooperative employee

relations, the research examines how employee voice mechanisms are used to facilitate environmental management. Three dimensions of employee voice dimensions are examined direct versus indirect, informal versus formal, and communication versus influence. The research explores how organisational leadership and culture, as enablers of change, shape line managers' and other employees' perceptions of environmental management. Specific objectives and research questions are:

1. To identify the main drivers, stakeholders, benefits and barriers to workplace environmental sustainability.

   - What drives public and private sector organisations to implement environmental sustainability initiatives the workplace?

   - Who are the key stakeholders that influence environmental sustainability in the workplace?

   - What are the potential benefits of implementing environmental sustainability initiatives in the workplace?

   - What are the barriers to workplace environmental sustainability?

2. To explore how leadership, culture and HR practices influence environmental sustainability in the workplace.

   - How do leaders support a green or sustainability-oriented culture?

   - How do HR practices influence workplace pro-environmental behaviours?

3. To analyse different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which can potentially enable or constrain environmental sustainability in the workplace.

   - What are the employee participation practices that support environmental sustainability in the workplace?

   - To what extent are the different forms of employee participation practices, and the interaction between them, associated with the successful adoption of environmental sustainability initiatives in the workplace?

4. To evaluate the potential for a partnership approach towards environmental sustainability in the workplace.

   - What is the actual and potential role of unions and their representatives in the process towards environmental sustainability in the workplace?

This thesis is important for a number of reasons. First, the unit of analysis is the workplace, both a significant contributor to carbon emissions and the site for implementing environmental improvements. Second, the primary focus is on employee relations practices; how they directly and indirectly and informally and formally influence environmental management, key social processes that have received relatively little attention in the GHRM literature. Third, this thesis provides an alternative approach to much mainstream GHRM research, in that it is more inclusive for it gives voice to all workplace stakeholders. It identifies the limitations of GHRM studies that neglect to consider histories and conflicting goals and interests of different stakeholders – employers, employees and trade unions - that potentially influence environmental management in the workplace. In this context, this thesis highlights the tensions of integrating the three sustainability domains of the economic, the people or social, and the environmental into an organisation's corporate strategy (Docherty et al, 2009; Elkington, 1997; Lund, 2004).

Several points relating to methodology can be summarised briefly. First, because environmental management is a *process*, the researcher needs to investigate the social interactions between knowledgeable line managers who execute environmental management and other employees at workplace level rather than rely solely on large-scale databases gathered from single responders, such as senior HR managers. Second, research needs to be conducted within a theoretical paradigm that recognises that the employment relationship is, by necessity, cooperative but it also entails conflict between the employer and employees.

Third, research needs to be 'context-sensitive'. It has to be cognisant of the wider economic-social factors, organisation or sector contingencies and to consider the forms HR strategy and HR practices might take in contrasting workplaces (Ferlie and Ongaro, 2015). Moreover, research needs to be more sensitive to the politico-administrative culture and societal context in which organisations are embedded (e.g., Delbridge and Keenoy 2010; Watson, 2010). Although there is evidence that HR practices can contribute to the achievement of low-carbon workplaces, there is also the problem of establishing the direction of the relationship or reverse causality. Sustainable workplaces operating as a monopoly or in favorable market conditions will both be able to meet the cost of sophisticated green HR practices and invest in them (Marchington, 2008; Purcell and Kinnie, 2008). Finally, evidence suggests that research should examine the contribution of employee voice, through employee involvement and participation (EIP) arrangements, in order to create a sustainable low-carbon workplace.

1.4   The Structure of the Thesis

The next nine chapters in this thesis provide the theoretical context for the research, further details about the methodology and the findings addressing the objectives stated above. Chapter 2 examines the theoretical roots of the term 'sustainability' and the competing definitions. It establishes the importance of the workplace as a site for implementing environmental improvements in order to address climate change. Further it identifies the key workplace stakeholders whom can potentially deliver improved environmental outcomes. To provide context it proceeds with a brief review of the literature on environmental leadership and organisational culture, and the contribution of green HRM to environmental sustainability. In addition, it provides a critical evaluation of the literature covering the different forms of employee voice and the role of employee relations in influencing environmental management.

Chapter 3 outlines the methodology chosen for this thesis. It considers the implications of adopting a mixed methodological approach, outlines the methods chosen, and provides detail of the actual data collection process that took place over fourteen months, between 2012 and 2014. The chapter concludes by arguing that a mixed-method approach, one that combines both qualitative and quantitative techniques, provide richer and more meaningful data to enhance and validate the findings in this thesis.

Chapter 4 examines the range of sustainability initiatives introduced and their effects in each of the six case studies selected. In doing so, it provides an overview of the different types of sustainability initiatives and examines the impact of environmental management practices.

Chapter 5 identifies some of the key dynamics and stakeholders that drive environmental sustainability initiatives in the workplace. It examines (a) the internal and external drivers towards sustainable low-carbon workplaces, (b) the role of stakeholders who influence sustainability strategy (c) the benefits of implementing sustainability initiatives, and (d) barriers to creating an environmentally sustainable organisation.

Chapter 6 focuses on the role of HRM in creating and supporting environmental sustainability. It identifies the HR policies and practices that have been implemented in the six cases to support low-carbon activities and employee behaviours. It examines (a) pro-environmental leadership, (b) organisational culture and climate and, drawing on existing GHRM literature, (c) the relationship between workplace pro-environmental behaviours and a bundle of HR practices.

Chapter 7 investigates the level, extent and quality of involvement between managers and workers and between managers and union representatives in environmental sustainability initiatives. It focuses on how employees both directly and indirectly and informally and formally contribute to environmental management. It examines a variety of employee voice mechanisms through which managers in the six case studies informed and consulted their employees including, direct communication, problem solving, financial participation, and representative participation. In addition, it examines the contribution unions can play in supporting workplace environmental sustainability. The underlying argument presented in this chapter is that workplace individual and collective employment relationships contribute positively to environmental management.

Chapter 8 examines each of the six case studies separately in order to address the specific objectives of this thesis and highlight the key lessons learned from the various cases. It outlines the key findings and learning points that emerged from analysing the role of organisational leadership and management, HR practices and employment relations across the case study organisations. The holistic focus on each case study set the scene for the concluding chapter that discusses the implications for workplaces and summarises the critical employee relations practices for influencing employees and engaging unions as part of an environmental sustainability strategy in the workplace.

Chapter 9 synthesises the key results and analyses and interprets how the findings confirm, enhance and add to existing research and knowledge. The research question is how do employee relations enable and improve environmental management in the workplace. For this research, questionnaire surveys and interviews were carried out at six workplaces in the public and private sectors in Scotland, comprising of local government, healthcare, higher education, transport and energy. One specific line of investigation is whether stakeholders at workplace level - managers, employees and union representatives - have the interest and capacity to contribute to environmental management. The overall purpose of this chapter is to outline the contribution to knowledge, research limitations and recommendations for future research and practice.

The main contribution of this thesis is to show that partnership working and mutual gains can be a feature of a sustainable workplace. The evidence from this thesis shows strong associations between the implementation of environmental sustainability initiatives and employee

participation. Overall, this thesis suggests that the form of participation may be less important than the way in which it is implemented and the degree of substantive influence that employees have in practice. This is consistent with much of the extant GHRM literature (e.g., Markey, McIvor and Wright, 2016). However, this thesis suggests that substantive employee participation, which is both deep and broad in scope (Marchington and Kynighou 2012), including a significant role for unions through collective bargaining, is a major contributor to more extensive activities in the workplace to reduce carbon emissions, especially in unionised public sector organisations.

One practical implication from this thesis is that cooperative, rather than conflictual, employee relations bring mutual gains for management and workers. This thesis demonstrated that successful low-carbon initiatives engaged a range of stakeholders who shared an interest in workplace sustainability: senior managers, HR managers, environmental managers, operations managers, pro-environmental champions, union environmental representative and workers, as well as interested stakeholders in the local community. In public sector workplaces, this thesis highlights that union environmental representatives should be given access to adequate training and facility time to perform their role effectively (Scotland, 2014)

This chapter introduced the conceptual, theoretical, and methodological approach for this thesis on sustainable workplaces. It established the importance of the workplace as a site for implementing environmental improvements to address carbon emissions. It examined different definitions and perspectives on employee relations before introducing the emerging field of Green Human Resource Management (GHRM). The case was made for a more inclusive and managerially focused understanding of employee relations that encompasses both individual and collective dimensions of the employment relationship before introducing the emerging field of Green Human Resource Management (GHRM). The chapter established the rationale for the research by highlighting the gaps in the current body of knowledge on environmental sustainability and employee relations and identified the methodological implications for this thesis. It outlined the objectives and primary research questions of this thesis and concluded with a summary of the key issues raised and a synopsis of all forthcoming chapters.

Chapter 2

Sustainability and Employee Relations Literature Review

The overall aim of this chapter is to examine the relationship between employee relations and environmental management in the workplace. The purpose of this chapter are to introduce the concept of sustainability and examine how this might be integrated within a workplace context to create positive environmental outcomes for organisations and society. The chapter first investigates the origins of the term sustainability before examining critical perspectives on corporate-oriented sustainability. Second, it identifies the drivers, stakeholders, benefits and barriers to the implementation of environmental sustainability initiatives in the workplace. Third, it then explores how leadership, culture and HR practices influence environmental sustainability in the workplace. Fourth, it examines different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which potentially enable or constrain environmental sustainability in the workplace. Finally, consideration is also given to the potential for a partnership approach towards environmental sustainability in the workplace. The case is made that a critical approach to researching workplace sustainability will involve investigating how the term sustainability is 'being used, by whom and for what purpose' (Banerjee, 2004: 1). Following the brief overview of macro-level factors affecting sustainability, such as environmental regulation, the chapter narrows its focus to a micro-level, highlighting the workplace for its potential to deliver improved environmental outcomes, and introduces the role of key stakeholders, including management and trade unions. It proceeds to examine the literature on 'corporate-oriented sustainability', environmental leadership, organisational culture and the role of human resource management (HRM) including recent studies on 'Green' HRM (GHRM) as an intervention strategy for contributing towards environmental management. The third section of the chapter gives a critical account of the employment relations of sustainability. The focus is on how the nature of the employment relationship influences environmental outcomes. The chapter ends by summarising the limitations of the research methods used and the significant gaps in the findings related to workplace environmental sustainability.

2.1 Sustainability and the Workplace

Defining Sustainability: Past and Present

This section begins by examining the origins of the term sustainability before examining critical perspectives on corporate-oriented sustainability. The meaning of sustainability has developed over several decades and is multi-dimensional, which suggests a need for nuanced concepts and refined terminology. The term 'sustainability' has its roots in the Latin word *sustinere*, meaning 'to hold up'. Throughout much of the late twentieth-century, where sustainability did enter management parlance, it was largely viewed from a narrow liberal-economic perspective, with sustainability understood simply as a management practice, with little consideration of conflicting employee and managerial interests. 'A popular term, *sustainability* has become one of those motherhood concepts that is hard to oppose, but difficult to pin down' (Sumner, 2005: 76 emphasis in original).

The broader discourse of sustainability evolved in the 1970s and 1980s with publications of critical academic work on the ecological limits of liberal economic growth (e.g., Carson, 1962; Meadows et al. 1972; Schumacher 1973). The issue of sustainability was initially debated at the 1972 United Nations Conference on the Human Environment in Stockholm (Buttel 1998; Mebratu, 1998). A significant development came with the formation of the UN's World Commission for Environment and Development (WCED), which subsequently provided the now classical definition of sustainable development: '… development that meets the needs of the present without compromising the ability of future generations to meet their own needs (1987: 43).

Conceptually the meaning of sustainability, as cited in the Brundtland Commission, 'can be understood as an overarching worldview recognising the interconnectedness of ecological, social, and economic factors in human activity' (Docherty, Kira and Shani, 2009: 6). The Commission's report also introduced 'the concept of justice (within and between generations, global justice and justice through participation and democratic arrangements) as a central issue in relation to efforts to enhance sustainability' (Lund, 2004: 43). 'Sustainability science' is an interdisciplinary field that seeks to enhance sustainability by integrating knowledge from a range of disciplines including, natural sciences, engineering, social sciences and the humanities (Kates et al., 2001). The challenge for sustainability science is to ensure that knowledge production is a communal effort that links academic research with industry and government and benefits individuals and society (Weik et al., 2012). Sustainability science is embedded within broader social processes of

understanding and, thus, contributes to organisational decision-making processes through the creation of knowledge (particularly analyses of risks and consequences) derived from emergent interdisciplinary inquiry (Kasemir, 2003). Importantly, in terms of this thesis, sustainability science scholars advocate participatory and collaborative approaches to the co-generation of knowledge and environmental decision-making (Blackstock et al., 2007).

Despite its relative longevity, sustainability is an emerging concept in the business world and the extant literature provides numerous and varied interpretations. In contemporary management parlance sustainability has been used to refer to values and ethics, as well as goals such as corporate social responsibility (CSR). In 1997, expert John Elkington, for example, coined the term 'Triple Bottom Line' or 'P3': people, planet, and profit, which emphasises that in sustainable workplaces, human and social resources along with ecological and economic resources should be able to grow and develop. From a work systems perspective, sustainability has been described as an ongoing process of efficiency *and* improved environmental and social performance (Docherty, Kira, and Shani, 2009). For Norton and his colleagues (2015), organisational efficiency and improvements to the planet is combined in the concept of 'environmental sustainability'. In the organisational context this means that environmental sustainability incorporates business needs (e.g., profitability) with environmental consideration (e.g., lower carbon emissions) in such a way as to be ecologically beneficial to the planet (Norton, Zacher and Ashkanasy, 2015). Popular corporate strategy authors have been optimistic, arguing that although the concept is understood to mean different things to different people, it nevertheless has made a positive social and environmental impact. For example, management strategy expert Michael Porter, championing the concept of creating shared value (CSV), has argued that the ongoing efforts of certain corporations are helping to transform sustainability from a 'cliché term' to an innovative and enduring business strategy (Porter and Kramer 2007, 2011).

It is plausible to argue that sustainability is no longer a fringe issue. Corporate titans such as Wal-Mart (Wal-Mart, 2015), Google (Google, 2015), and BP plc (BP, 2015) have embraced elements of sustainability. Occupational health and safety has long been an issue for trade unions, but institutions such as the International Labour Organization (ILO), the European Trade Union Confederation (ETUC) and Trades Union Congress (TUC) in the United Kingdom have also embraced the wider concept of sustainability. Sustainability is particularly relevant to 'mission-driven' organisations such as governments, charities, and universities, because they are not

evaluated in traditional financial terms, and have missions that go beyond the bottom line' (Boudreau and Ramstad, 2005: 130). This trend towards sustainability, no doubt influenced by the environmental movement of the 1980s and corporate social responsibility movement of the 1990s, has influenced organisational leaders to become increasingly aware of the need to build positive relations with stakeholders both internal and external to the organisation in relation to environmental issues (Harrison and Freeman 1998).

From a strategic management perspective, in the public sector context matters (Ferlie and Ongaro, 2015) and it is possible to argue that the trend towards corporate sustainability has been influenced by the culture of managerialism (Fleming, 2015; Melo and Beck, 2014; Pollitt, 1998; Whitfield, 2012). Managerialism is not simply the application of managerial practices in organisations, but rather, a belief that all work organisations, private and public, can only operate efficiently if decision-making is centralised in the hands of professionally trained and "objective" managers. The rhetoric of managerialism accepts the starting point that "efficiency" goals are self-evident and employs a cluster of metaphors around quality and customer choice. Managerialism as a set of practices encompasses the decentralising of budgetary authority, the setting of performance targets and use of HR practices such as performance appraisal (Fleming, 2015). Significant to this thesis, is the observation that environmental management training, notably in the USA and in Britain, has incorporated a particular set of managerial assumptions skewed towards the performative norms embedded deep within capitalist theory and practice (Hampton, 2015). The ideology in mainstream accounts of environmental management rests upon the assumption that better management (rather than government regulation and compliance, for instance) offers the best opportunity to reduce carbon emissions. The rhetoric of environmental management accepts the starting point that "efficiency" goals are self-evident and employs a cluster of metaphors around the need to recycle, reduce energy and carbon emissions and the degradation of the planet to justify sustainability strategies. In this way, there is an assumption in mainstream accounts of environmental management of neutrality and universality. Environmental management has assembled a range of "green practices" including, but not limited to, diesel emission reduction strategies, smart energy practices, green building, recycling, minimising waste, and environmentally friendly purchasing. The practitioner arguments are powerful in that green practices can result in reduced energy consumption and costs, and reduced greenhouse gas emissions. Some green practices may work well across a variety of organisations. Hence the issue of context is crucial.

Within the emergent literature on sustainable workplaces it has been argued that in order to work towards the goal of environmental risk management organisational leaders must develop an environmental management system (EMS). Environmental risk management is the process of identifying, evaluating, selecting, and implementing actions to mitigate against climate change while reducing negative externality risks (e.g., CO2, air pollution, toxic waste) to ecological systems and human health (Case, 1999; Calow 1998; Jones, 2001)[2]. Whereas EMS is the most widely recognised tool for managing the impacts of an organisation's activities on the environment. EMS refers to the management of an organisation's environmental impact in a comprehensive, systematic, planned and documented manner. It incorporates people, procedures, and working practices into a formal structure; involves all members of an organisation, as appropriate; promotes continual improvement including, periodically evaluating environmental performance and actively engages senior management in support of the EMS (e.g., Zutshi and Sohal 2004). Workplace scholars argue that an EMS will enable organisations to achieve more environmentally sustainable processes, practices and outcomes (e.g., Jabbour et al., 2010). Thus, the focus is to improve environmental performance and to maintain compliance with environmental regulations. Since EMS and risk management are analogous activities, EMS supports an organisation's overall approach to environmental risk management.

The concept of sustainability has evolved since its first usage over thirty years ago. There is a general consensus in the literature that the concept of sustainability is linked to nature, the notion of resource conservation, and as outlined by Dyllick and Hockerts (2002) interpretations of the term has been influenced primarily by three different stakeholder groups: ecologists, business strategy scholars, and the United Nations (WCED 1987). While its origin begins with the natural environment, the concept often embodies a human emphasis, 'reflecting not only a concern for our future, but also an unease with our current situation and an emphasis on human agency' (Sumner, 2005: 78). Human agency can be defined as 'a person's level of confidence that they can undertake the behaviour in question, and see it through to completion; also a reflection of their perceived level of control over the behaviour in question' (Cox et al. 2012: 36). Instead of helping to improve our understanding of sustainability, these contradictory interpretations and their tensions indicate the kind of problem that sustainability can pose, both in evaluating the

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[2] It is important to differentiate between risks and hazards. Hazards describe an object, condition, or process that in particular circumstances could lead to harm. For example, a hazard may be a flooding of a river. A hazard becomes a risk if there is a reasonable probability that this condition produces harm.

literature and in terms of employers and employees working in partnership towards more environmentally sustainable outcomes in the workplace.

The central argument of this thesis is that 'corporate-oriented sustainability' fails to engage sufficiently with conflicts of interest in the capitalist employment relationship (Stroud et al., 2014; Hampton, 2015; Lund, 2004; Mayer, 2009; Storey, 2004). The notion of sustainable supply chain management potentially presents another limitation of corporate-oriented sustainability (e.g., Svensson, 2007). While it is possible to envision a sustainable labour process in the UK, if the supply chain involves outsourcing to a jurisdiction with weaker environmental regulation the net positive environmental effects may be minimal. Here, therefore, sustainability is studied within a pluralist approach that recognises that the employment relationship is, by necessity, cooperative but it also entails unavoidable conflict between the managers and workers. For example, in addition to focusing on formal and informal employee relations, there needs to be greater sensitivity to the macro and global structures that can buttress the common interests of workers and managers, or even trade unions and environmental movements. This perspective calls for what C. Wright Mills' (1959) referred to as the 'sociological imagination' (see Watson, 2010: 915), a research strategy that will better contextualise employee relations and environmental management within the context of wider social dynamics of the workplace.

Critical Perspectives on Corporate-Oriented Sustainability

The problem with mainstream environmental studies perspectives is that they fail to engage sufficiently with conflicts of interest in the capitalist employment relationship (Lund, 2004: 48-49). Critical authors three decades ago argued that the term sustainability had become a purposeful distraction, 'deliberately vague (…) so that endless streams of academics and diplomats could spend comfortable hours trying to define it without success' (O'Riordan, 1985: 37). Later, others added to this critique, arguing that the sustainability debate had become too 'technocratic, mere rhetoric, inegalitarian, and for being a *smokescreen for perpetuation of the status quo, vacuous, politically correct sloganeering'* (Buttel, 1998: 262 emphasis added). More recently, informed by a social justice perspective, a number of critical social scientists (e.g., Dobson, 1998; Agyeman and Evans, 2004) and environmental advocacy associations (notably Friends of the Earth Scotland) are attempting to reorient the term sustainability around concepts of equity, social justice, participatory democracy and ecological limits. This more inclusive view of sustainability is captured by Agyeman, Bullard, and Evans (2002: 78) who argue that:

> Sustainability . . . cannot be simply a "green", or "environmental" concern, important though "environmental" aspects of sustainability are. A truly sustainable society is one where wider questions

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of social needs and welfare, and economic opportunity are integrally related to environmental limits imposed by supporting ecosystems.

Drawing on the work of Dobson (1998) and Agyeman, Bullard and Evans (2003) this thesis defines sustainability as the need to ensure a better quality of life for all, in the present and into the future, in an equitable manner, whilst living within the limits of ecosystems. This more inclusive definition focuses on four core areas: *quality of life, present and future generations, equity and justice* in resource allocation, and on *living within environmental limits*. While mainstream corporate notions of sustainability have little to say about contemporary human conditions, this definition includes notions of both intra-generational and inter-generational equity (equality within and between different generation groups). This new more egalitarian perspective of sustainability draws the connection between environmentalism, equity and fairness. Emerging definitions, therefore, shift away from the dominant orientation of environmental sustainability: towards "Just Sustainability" (the nexus between social justice and environmentalism) a broader approach that prioritises social justice, but does not downplay notions of ecological limits. The proposed 'environmental justice' definition has more explicit emphasis on the social conditions of citizens and workers, both locally and internationally, and also acknowledges that multiple stakeholder decision making starts to address environmental and social inequality (Benn, Dunphy, and Martin, 2009; Carlsson and Berkes, 2005; Richardson and Razzaque, 2006; Robbins, 2004; Schlosberg, 1999).

The role of the 'state' in the environmental management discourse should not be downplayed or ignored. Whether through macro-economic policy, free trade agreements (e.g., NAFTA, TTIP), labour market reforms (e.g., Information and Consultation of Employees Regulations 2004), environmental legislation or investment in renewable technology, the state plays a central role in the economy. But most environmental studies mirror mainstream management by neglecting the close relationship of the capitalist state to corporate interests (Kelly, 1998). For example, Heyes and Nolan (2010: 121) argue that:

> The state is viewed as a benign force composed of multiple sites of authority none of which is dominant. It acts to create institutions and networks that facilitate information sharing, innovative behaviours, coordination and joint problem solving by social actors ... Yet pluralism lacks a clear theory of the state, certainly lacks a theory of the *capitalist* state and therefore fails to problematize the nature of the state's relationship to capital and labour. (emphasis in original)

The mainstream management approaches fail to engage with the dynamics of capitalism and the nature of the capitalist state. For example, mainstream approaches might experience difficulties accounting for the unwillingness of the state to strengthen the legal rights of employees and unions (Heyes and Nolan, 2010: 121). Examining sustainability and the workplace from a critical

perspective also requires that researchers recognise macro social structures, climate and environment agreements such as UK and EU environmental legislation, and distortions of international free trade.

At the workplace level a critical environmental studies perspective recognises the need for bottom-up, stakeholder-centred input 'which would, by necessity, involve two-way dialogical communication' (Sumner, 2005: 91). This, it is argued, is best developed if deliberative democracy principles are employed and there is recognition by stakeholders of 'their interdependencies and power differences and the development of a shared will to move beyond the immediate self-interest of the affected parties' (Benn et al, 2009: 1572). Such stakeholder centred approaches accept the inevitability of change in the nature of environmental risks or human perceptions of environmental risks, and assume that organisations have reflexive capacity to respond to the process of deliberation and 'mutual learning' between a range of stakeholders engaged in decision-making (Bertels and Vredenburg, 2004; Carlsson and Berkes, 2005). Organisational leaders, senior managers and other employees are central to facilitating change and supporting better environmental outcomes. From a pluralist perspective, for example, employees and their union representatives could be involved in strategic decision-making with potential for 'social partnership' (Johnstone and Ackers, 2015) for better environmental outcomes in the workplace.

2.2   The Workplace and Key Drivers, Stakeholders, Benefits and Barriers

The section identifies the workplace for its potential to deliver improved environmental outcomes. It examines the role of key stakeholders, including managers, employees and trade unions, and the key drivers, benefits and barriers to creating a sustainable workplace. It aims to identify what drives public and private sector organisations to implement environmental sustainability initiatives in the workplace. The extant literature on sustainable workplaces raises the possibility that work organisations, through appropriate policies, processes and practices, can make strategic choices that can enhance natural resource efficiency and reduce the amount of greenhouse gases emitted into the atmosphere (Cox et al., 2012; Kennedy et al., 2015). In order to investigate how these policies, processes and practices are enacted, and with what effect, one must observe the workplace. It is in the workplace where aspects of an employment relations system – its labour laws, collective agreements, and managerial and labour union philosophies and policies – have their effects on the issue of work itself and, by extension,

labour productivity and environmental sustainability (Belanger et al., 1994: 4). It is to the workplace that one must look to examine how the structures of laws and agreements combine with managers' and workers' own goals to create a workplace regime that governs how work is actually performed (Kersley et al., 2006; van Wanrooy et al., 2013). The structures of laws and agreements could also help shape a low-carbon workplace strategy. The workplace is a site where social relationships shape interests, motives, and the actions of managers and workers, and where cooperation and resistance around management objectives takes place in a 'contested terrain' (Edwards, 1979).

Drivers

A significant body of research indicates that government regulation and legislation is a major driver of organisations' environmental activities (Kumar and Putnam, 2008; Revell and Blackburn, 2007; Walker, Sisto and McBain, 2008; Vormedal and Ruud, 2009). Several studies have reported that customers motivate organisations to adopt environmental management practices (Sharma and Henriques, 2005; Gabzdylova et al., 2009). The UK literature on strategic HRM suggests that general and line managers play a crucial role in enacting HR policies and practices (e.g., Purcell and Kinnie, 2008). As internal stakeholders, senior managers and line-managers are seen as to be key to the adoption and enactment of sustainability initiatives (Flannery and May, 2000). External governmental bodies, such as the Carbon Trust, can reduce information costs, provide technical assistance, and coerce others by requiring adherence to environmental standards (Bhaskaran et al., 2006; Delmas and Toffel, 2004). Local community and the media stakeholders can also exercise influence on the reputation of organisations that implement environmental improvements (Cho et al., 2012).

Despite the research on organisations' sustainability strategies, it remains unclear why some organisations adopt sustainability initiatives beyond regulatory compliance (Delmas and Toffel, 2004; Gabzdylova et al., 2009). In this thesis, drawing from Walker, Sisto and McBain's (2008) UK research on sustainable supply chain management, drivers of sustainability initiatives are grouped into internal and external drivers. Internal drivers of change are described as organisational factors, and external drivers as environmental or societal factors (Walker et al, 2008: 70-73). Internal organisational drivers of sustainability practices include, for example: personal or ethical values of managers; employee environmental champions; desire to reduce operational costs; employee engagement; organisational culture; investor pressure; and, since the 1990s, corporate social responsibility (Gabzdylova et al., 2009; Hanna, Newman and Johnson

2000; Walker et al., 2008). Following stakeholder theory, external drivers of change are associated with two specific external pressures: legislative and regulatory compliance and customer demands for sustainable products and services (Guerci et al., 2016). Other studies have noted external drivers of change including increased energy costs, gaining competitive advantage, access to government funds, pressures from suppliers, environmental groups, trade unions and public opinion that impinge on the organisation (Berry and Rondinelli, 1998; Zhu and Sarkis, 2006; Haigh and Jones, 2006; Walker et al., 2008). Changes in these various internal and external drivers might cause managers to consider the need for environmental sustainability initiatives, but every organisation has its own unique history and context.

Stakeholders

Workplace sustainability is more than a technical challenge; it goes to the very heart of the social relations of work. Zibarras and Ballinger's (2011: 5) survey of sixty-five UK workplaces reports that the majority of organisations indicated that the responsibility for sustainability is distributed across all employees in the organisation (27 per cent), whereas other organisations allocated the responsibility to specific teams or functional areas, such as the property and facilities team (27 per cent) or HR department (10 per cent). They report that 15 per cent of organisations had a team specifically working on corporate social responsibility and almost a third of respondents (32 per cent) indicated that more than one team shared responsibility in the organisation. Similarly, a study of ten public and private sector Scottish organisations indicates that facilities managers and environmental managers play a key role because of their expertise. In contrast, the role of HR specialists in most sustainability initiatives appears to be absent in larger organisations (Cox et al., 2012: 45). Cox et al. argue that given the focus of many sustainability practices on changing aspects of work routines, HR specialists may be useful sources of influence and advice.

Unions have a role to ensure equity in the sustainable workplace. Internationally, unions, supported by environmental advocacy groups (e.g., Friends of the Earth Scotland), are developing environmental policy that calls for a "just transition" towards a low-carbon economy. Just transition recognises that environmental policies should be designed to ensure the costs and benefits of environmental transition are distributed fairly across society and between communities; and existing inequalities must not be worsened in the process of transition (CLC, 2000; Hrynyshyn and Ross, 2011; STUC, 2009; TUC and Allan, 2008). This approach is not only more equitable, but it also arguably enhances the political credibility of change and ensures that social or political groups do not stand in opposition to a rapid shift towards a low carbon

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economy. Unions are seen to offer a key role in terms of supporting environmental sustainability through their traditional health and safety concerns in the workplace (e.g., Callaghan, 2007; Reinecke and Donaghey, 2015). Objectives of engagement with sustainability issues and the "just transition movement" might include: renewing union activity, increasing union membership, and re-establishing union legitimacy; resisting workplace budget-cuts and redundancies through energy cost-cutting arguments; increasing training and workplace learning opportunities (Lund, 2004: 46-48); and, importantly, extending traditional workplace health-and-safety goals to include social justice, public health and ecology (Hampton, 2015).

Stakeholders other than workers can exercise considerable influence over the outcome of many change initiatives (Hayes, 2010: 195). Adapting Freeman's (1984) definition an environmental stakeholder can be defined as 'individuals or groups that can affect or be affected by the achievement of a firm's environmental goals' (Banerjee, Iyer, and Kashyap, 2003: 107). This definition can be widened to include external stakeholders such as local communities and the government (Clarkson, 1995). The literature identifies four key environmental stakeholder groups, internal organisational stakeholders, external stakeholders in the form of regulatory agencies, customer and community groups, and the media (Gabzdylova, Raffensperger, and Castka, 2009).

Benefits

Organisations expect both quantifiable and non-quantifiable benefits from implementing sustainability practices (Zutshi and Sohal, 2004). Therefore, the rationale for adopting low-carbon practices cannot be separated from the perceived benefits anticipated from its implementation and practice (Zutshi and Sohal, 2004). In this thesis perceived benefits are classified as 'internal' and 'external'. Internal benefits are those deemed to have positive outcomes resulting directly from low-carbon sustainability practices and relate to the internal operation of the organisation. In turn, internal benefits can be grouped into three categories: (1) organisational benefits; (2) financial benefits; and (3) people benefits (Hillary, 2004: 563). External benefits are positive outcomes from the implementation of sustainability practices that relate to the external interaction of the organisation. External benefits can be grouped into three categories (1) commercial benefits; (2) environmental benefits; and (3) communication benefits (Hillary, 2004: 563-64). For example, from a financial perspective there are a range of benefits associated with effective environmental management practices including, significant cost savings through the reduction of energy and more efficient use of natural resources (e.g., electricity, gas,

water), reducing the quantity of waste requiring costly disposal through reuse or recycling, reducing air emissions. Mike Barry, Head of Sustainable Business at Marks and Spencer (M&S) argues that energy efficiency in 2011/12 saved M&S £22 million; using fewer raw materials and reducing packaging saved £16.3 million; using less vehicle fuel saved £2.1 million; and waste reduction and recycling more saved £6.3 million (M&S, 2012). Further, other benefits may include avoiding fines and penalties from not meeting environmental legislation, reduced insurance costs, and improved relationships with suppliers, customers and other stakeholders such as employees and trade unions. Next the implication of environmental sustainability for employees and trade unions is examined from a critical management studies perspective.

Barriers

The restraining forces or barriers to creating an environmentally sustainable workplace tend to be grouped into internal and external (Lawrence et al., 2006; Hillary, 2004; Walker et al., 2008: Ervin et al, 2013). Internal barriers are described as organisational barriers, and the external barriers include regulation and industry-specific barriers. Organisational barriers are not unique to environmental problems, but may constrain an organisation's capacity to manage any form of planned change (Post and Altma, 1994). Organisational barriers include investment cost, management attitude towards environmental stewardship, lack of technical knowledge and innovation capacity, company ownership, and poor communication (Cox et al, 2012; Plank, 2011; Wycherley, 1999). Few studies have evaluated the financial barriers to environmental management in both the public and private sector (e.g., Cox et al, 2012; Walker et al., 2008) and specifically in the healthcare and higher education sector in the UK (e.g., Plank, 2011; Tudor, Noonan, and Jenkin, 2005). However, when barriers were examined, the studies found the costs of environmental management to be one of the most significant barriers to implementing environmental management measures, especially for small and medium enterprises (SMEs) operating in service sectors (Ervin et al., 2013; Johnstone and Labonne, 2009; Masurel, 2007). A recent survey of 260 Scottish companies reports that the top three barriers to implementing environmental improvements are cost, time, and lack of knowledge (Mawson and Carmichael's 2011: 4). Industry-specific barriers reflect the unique and particular features of the activity in which the organisation engages (Post and Altma, 1994: 67). Industry-specific barriers include capital costs, competitive pressure, industry regulation, investor and regulatory pressures, and community concern (Ervin et al., 2013; Walker et al., 2008; Zhu and Sarkis, 2006).

2.3   Environmental Leadership and Organisational Culture

Environmental Leadership

This section explores how organisational leadership and culture influence environmental sustainability in the workplace. It examines the role of leaders in supporting a green or sustainability-oriented culture. It aims to investigate how HR practices influence environmental sustainability in the workplace. The study of leadership is ultimately concerned with organisational performance, but it is a contested term. Keith Grint (2005) acknowledges the complexity and ambiguity of the term 'leadership'. Much of the literature defines leadership by contrasting it with 'management'. While management is concerned with completing tasks in the most efficient way, leadership is concerned with direction setting and change. Grint (2005: 15) puts it like this: 'management is the equivalent of *déjà vu* (seen before), whereas leadership is the equivalent of *vu jàdé* (never seen before)'. Yukl (2013:23) define leadership as 'the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives.' This definition has three key aspects. First, it defines leadership as an interpersonal process in which one individual seeks to have an effect on and direct the behaviour of others. Second, it puts leadership in a social context, in which the members of the group to be influenced are subordinates or 'followers'. Third, it establishes goal achievement as one of the criteria for effective leadership. Hence, Yukl's definition of leadership focuses on the process of social influence and goal achievement.

Within the strategic management context, the goal of environmental leadership is to motivate followers to achieve high levels of environmental-related performance. A substantial body of literature has highlighted the importance of environmental leadership in efforts to develop employee pro-environmental behaviour and sustainable workplaces (e.g., Egri and Herman, 2000; Robertson and Barling, 2015). Egri and Herman (2000: 572) define environmental leadership as 'the ability to influence individuals and mobilize organisations to realise a vision of long-term ecological sustainability.' This definition is based on the notion that guided by eco-centric values and assumptions; environmental leaders seek to change economic and social systems that they perceive as currently and potentially threatening to the health of the biophysical environment.

The environmental leadership literature highlights transformational leadership in the effort to achieve environmentally sustainable organisations. Building on the work of Gallagher (2012),

Robertson and Barling (2015) define environmental leadership as 'a process in which, inspired by their own personal values, leaders strive to influence others at all levels of the organisation in an effort to benefit the natural environment' (2015: 166). Environmental leaders typically demonstrate transformational patterns of behaviour including: charisma, two-way communication, values of collaboration, and orientation towards changing work systems that reduce an organisation's environmental impact. For example, Portugal and Yukl (1994: 274) report transformational leadership behaviours such as 'articulating an appealing vision with environmental issues, changing perceptions about environmental issues, and taking symbolic actions to demonstrate personal commitment to environmental issues.' Furthermore, Ergi and Herman's (2000) quantitative study, drawing on Quinn's (1988) competing values model of managerial roles, suggests that environmental leaders tend to be "master managers" who frequently perform both transformational and transactional leadership roles. Research findings have identified several different leadership behaviours enacted by environmental leaders including, supporting behaviour for first-line managers, articulating an environmental sustainability vision, sharing of ethical values to act as a role model and inspirational motivation (Fernández, Junquera, and Ordiz, 2006). Moreover, the influence of top leaders in implementing low-carbon initiatives stems from the ability to direct corporate strategy along with organisational policies, budgets and rewards (Branzei, Vertinsky and Zietsma, 2000).

According to organisational change theorists, successful change leadership is not about prescriptive fixed traits; rather it is about developing a process that promotes horizontal collaboration between change agents and enhances the engagement of workers (Caldwell, 2003). Robertson and Barling (2015: 170) observe that leaders' supportive behaviours have been shown to be a significant component of environmental leadership. Many researchers have argued that a 'sustainability leader' can extend beyond senior managers (Ferdig, 2007; Schein, 2010). Robertson and Barling (2015: 169) found that pro-environmental leaders are more likely to (a) possess personal values that go beyond self-interest, (b) have favorable attitudes toward the natural environment, (c) perceive social pressure to support environmental and sustainability initiatives, and (d) view environmental issues as commercial opportunities for their organisation.
Other studies have identified different types of behaviours enacted by sustainability leaders including line management supportive behaviours (Cox et al., 2012). These behaviours include encouraging innovation among employees, competence building, communicating ideas on sustainability, information dissemination, rewards and recognition, and management of goals and responsibilities by disseminating environmental targets and responsibilities. Similarly, Daily et al.,

(2009) posit that supervisors' support for sustainability initiatives is positively related to employees' environmental organisational citizenship behaviours. Supporting these theoretical claims, empirical studies consistently affirm that leaders' supportive behaviours do matter because they enlist a critical mass of support for change by encouraging middle and line managers' and other employees' pro-environmental behaviours (Ramus, 2001, 2002; Ramus and Steger, 2000).

The extant literature suggests that environmental leadership must generate positive relations with stakeholders both internal and external to the organisation (Cox, 2009; Shani and Docherty, 2009). Stakeholders defined by Freeman (1984: 46) are 'any group or individual who can affect or is affected by the achievement of the organisation's objectives.' Environmental leadership involves decision-making processes based on 'a premise of interdependent inclusiveness' (Johnson, 1998: 261), wherein stakeholders and entities previously regarded as external to the organisation are involved in certain decision making processes. The sustainability literature identifies four key stakeholder groups: (1) regulatory stakeholders, (2) workplace stakeholders, (3) community stakeholders, and (4) the media (Gabzdylova, Raffensperger, and Castka, 2009; Henriques and Sadorsky, 1999; Zibarras and Ballinger, 2011). The 'Green HRM' literature highlights that for certain key decision-making processes environmental leaders could seek to include the views of external stakeholders such as elected government representatives, members of the community, and environmental advocacy associations.

Nonetheless, workplaces stakeholders – specifically, line managers and other employees – are seen to be key to the overall success of an organisation's environmental management system. Participation of all levels of management is essential to the implementation of an environmental management system (Daily and Huang, 2001; Ramus, 2002; Aragón-Correa et al., 2004; Moffat and Auer, 2006; Fernández et al., 2006; Brio, Fernández and Junquera, 2007), particularly the introduction of a sustainability strategy. For example, 'using multiple influencers', including specialist managers responsible for buildings and energy, line managers, senior managers, and supporting individual environmental champions and/or employee-led sustainability groups may also help to engage sections of the workforce not ordinarily accounted for in mainstream environmental change approaches (Cox et al., 2012: 4; Beard and Rees, 2000; Brosse, 2010). Purcell et al. (2009: 60) define front line managers (FLMs) as 'those who have direct supervisory responsibility, normally for non-managerial employees, and are placed at the lower levels of the management hierarchy, often the first line level.' For example, Fernández et al. (2007: 7),

outlining the key role that FLMs play in supporting an environmental management system (EMS), argue that management's role should centre equally on achieving a more 'flexible culture' as well as providing information. The former includes encouraging an organisational culture that is favourable to change; therefore facilitating compliance to the EMS requirements, and the latter relates to participative management processes leading to the superior functioning of an EMS.

Organisational Culture and Climate

'Implementation and organisational change are the key issues the sustainability agenda is demanding action on' (Millar, Hind, and Magala, 2012: 491). In broad terms, the pursuit of environmental sustainability can be viewed as an organisational change process (e.g., Perron et al., 2006). Jørgensen (2000: 61) describes its implementation as a 'process', arguing that 'an organisation's ability to *change* is crucial in order to establish a dynamic environmental system and to achieve continuous improvements' (emphasis in original). For Joøgensen, the term *process* refers to the social interaction between leaders, managers and subordinates. At the level of the individual, the term describes the 'cognitive process' followers go through before and during the behaviour—that is, how an individual *thinks* about her or his work situation. Several studies have indicated that one of the reasons for the failure of an environmental management system is that senior management ignores or downplays the influence of culture on organisational life (Daily and Huang, 2001; Harris and Crane, 2002; Keogh and Polonsky, 1998; Brio et al., 2008). It has been argued that culture may facilitate the adoption of a change strategy if there exists a 'strong coherence' between them (Chen, 2011). Culture, on the other hand, may act as a barrier, which hinders or prevents organisational change. The notion that a 'strong' organisational culture can be leveraged to achieve strategic sustainability goals has generated widespread discussion among both researchers and practitioners.

Organisational culture is central to the process of decarbonising organisations. It is argued that when implementing sustainability initiatives, workplace scholars and practitioners need to consider organisational culture (Brio et al., 2008; Norton et al., 2015). A number of scholars have explored how an organisation's culture influences the way in which it responds to environmental sustainability (e.g., Russell and McIntosh, 2011). A *pro-environmental organisational culture* has been defined as:

> A pattern of shared basic assumptions learned by a group as it adapts to the challenges posed by human activity's impact on the natural environment in a way that permits day-to-day functioning, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to environmental sustainability (Norton, Zacher and Ashkanasy, 2015: 329-330).

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There is some debate regarding whether organisations need to have an underlying 'moral commitment to sustainability' (Davis and Coan, 2015: 247), and research suggests there is a need for the principles, assumptions and values that underpin the organisation's norms and rules to be changed if sustainability is to be achieved (e.g., Hayes, 2014). The focus on pro-environment values reinforces the need for a transformative change to the organisation's culture. The term 'sustainability-focused organisational learning' (SFOL) has been used to describe the early experience of organisations pursuing a sustainable low-carbon strategy while at the same time making substantial changes to their organisational culture (Molnar and Mulvihill, 2003: 167). These changes may involve the use of informal learning and employee development techniques.

Several studies have emphasised that successful low-carbon initiatives are embedded in an organisational culture with values and basic assumptions that reinforce pro- environmental behaviours (Keogh and Polonsky, 1998; Daily and Huang, 2001). This introduces the concept of 'cultural congruence', that is, in order for an organisation to become environmentally sustainable, its underlying values and assumptions must be aligned with sustainability interventions in such a way that employees' attitudes and behaviours scaffold the organisation's overall low-carbon strategic objectives (Davis and Coan, 2015; Russell and McIntosh, 2011). A sustainable low-carbon workplace is therefore associated with specific pro-environmental attitudes, values and behaviours.

Whereas organisational culture reflects the intangible elements of social context such as values, assumptions, and beliefs, *organisational climate* represents a more tangible and, arguably, a more practitioner-friendly approach to addressing the social context within the workplace (James et al., 2008; Norton et al., 2015). Theoretically, the concept is grounded in Lewin's (1951) field theory and is concerned with the influence of the workplace environment on an individual's behaviour, and not the potential contribution that an individual's behaviour makes to the workplace (Norton et al., 2015: 333). This is in contrast to the theoretical underpinnings of organisational culture, which highlight 'the role individuals have in constructing their work environment' (ibid). Hence, *pro-environmental organisational climate* has been defined as 'employees' shared perceptions of pro-environmental policies, procedures, and practices that an organisation rewards and supports' (Norton et al., 2015: 335).It has been argued that one of the strengths of research on strategic climates is the focus on positive behaviour outcomes such as workplace pro-environmental behaviours (Kuenzi and Schminke, 2009; Norton et al., 2015). In this sense, organisational

climate provides a perceptual lens through which employees decide what actions are appropriate in the workplace (Norton et al., 2015: 334-335).

Correspondingly the emergent literature on green HRM emphasises that a set of integrated HR practices covering recruitment, performance management and appraisal, learning and rewards can build a more environmentally sustainable workplace culture (Chen, 2011; Renwick et al., 2013; Jabbour et al., 2010). Studies suggest that employees' attitudes and behaviours can be modified through a cluster of HR practices. Fernández et al. (2003), for example, highlight the central role of HR practices:

> The impact on performance will take place when the human resource management system is inserted into the organisation's architecture and environmental awareness becomes part of a company's culture (Fernández, Junquera and Ordiz, 2003: 641).

This excerpt suggests that the effectiveness of an EMS relies on a culture based on ecological values and it must include a thorough knowledge or 'deep awareness' on the part of management and other employees (Daily and Huang, 2001; Harris and Crane, 2002; Fernández et al., 2003; Jabbour and Santos, 2008). Arguably, the development of environmental sustainability as an integral part of organisational culture is a key factor contributing towards superior environmental performance (Chen, 2011; Kitazawa and Sarkis, 2000; Sharma, 2000; Handfield et al., 2001; Daily and Huang, 2001; Harris and Crane, 2002; Govindarajulu and Daily, 2004).

Research suggests that employers will have to engage in a dramatic culture change in order to achieve continuous environmental improvements (Angell and Klassen, 1999; Chen, 2011; Jørgensen, 2000; Ramus, 2001). The mainstream 'green cultural change' theories describe organisational change where values are easily transmitted from management to other employees. These functionalist writers assume that management espoused values will be widely shared and strongly held by all organisational members (e.g., Welford, 1995). While the concept of organisational culture has become a subject of some considerable debate in the management (e.g., Kanter, 1983) and the organisational theory literature (e.g., Willmott, 1993), it has been argued that the concept of organisational culture has been applied 'somewhat superficially in models and theories of organisational greening' (Harris and Crane, 2002: 215). According to the mainstream HRM literature, organisational culture, in terms of attitudes, beliefs, values, and norms, is generated and managed according to organisational goals and needs. This functionalist perspective is based on the assumption that the organisation is a stable, orderly system that serves specific functions (Wittenbaum et al., 2004).

In direct contrast to mainstream perspectives that understands culture as something that an organisation '*has*', critical perspectives proceed from the root-metaphor idea that the organisation '*is*' a culture. Critical approaches such as the 'fragmentation' perspective, for example, regard 'the essence of culture as ambiguity, inconsistency, and lack of consensus' (Bryson, 2008: 745). This view rejects the idea that culture possesses any objective, independent existence that imposes itself on members of an organisation (Ackroyd and Thompson, 1999; Fleetwood and Ackroyd, 2004). The significance of the fragmentation perspective is amplified by the existence of 'sub-cultures', (Clegg et al., 2011) defined as groups that maintain an element of autonomy within the organisation while performing according to organisational objectives; and the presence of 'counter-cultures', defined as groups that create an alternative culture which challenges the views of the organisation. For example, some authors have suggested that the existence of labour unions may function to undermine attempts by senior management to encourage pro-environmental behaviour in the workplace (e.g., Brio et al., 2007). Hence, the value of the fragmentation perspective is in its exposure of the naivety of using a functionalist approach to describe the organisation: naivety in that it does not admit the existence of conflict, different individual lived experiences or organisational subcultures. For example, Crane (1995) identifies an undeveloped conception of organisational culture in the green HRM literature, with non-functionalist views of culture largely being ignored. The comparative case study research by Fineman (1996, 1997) has been referred to as 'something of an antidote to the non-empirical and largely uncritical literature on green organisational culture' (Harris and Crane, 2002: 217). It suggests that even in the "most progressive firms", environmental values and beliefs tend to be absorbed into existing cultural assumptions and beliefs rather than eliciting any kind of cultural transformation. Newton and Harte (1997) expose the over-reliance on simplistic formulae for green change, the overselling of voluntary change as a solution to environmental issues, and the lack of a critical perspective into how and why culture change might occur.

There is a large body of research that demonstrates the important role of culture and climate in achieving organisational goals (Norton et al, 2015: 322). There is also a recognition that HR has a role in shaping organisational cultures. Accordingly, a sustainable workplace can be conceptualised as a collective endeavor and has the same attributes of strong corporate cultures wherein the culture acts as a metaphorical glue that binds employees and work processes together. As Purcell and his colleagues observe, although ad hoc HR practices can easily be replicated, 'it is the mix of these practices with well-developed routines underpinned by values collectively applied and embedded which is so hard to imitate' (2009: 26). Scholarship on

environmental sustainability affirms the importance of the efficient management of finite natural resources, the need to consult and "engage" the entire workforce, and the effective management of people (Arrowsmith and Parker, 2013; Macey and Schneider, 2008; Robertson and Barling, 2013, 2015).

People are key carriers of values into the workplace. A bundle of HR practices is both a carrier through which dominant values are expressed and enacted and, by their outcomes, express deep-rooted shared values (Purcell et al., 2009). The extant literature on organisational culture and business strategy highlights how important it is that the prevailing business strategy and organisational culture are consistent with each other (internal fit) and with the wider operation of the organisation (external fit) (e.g., Chow and Liu, 2009). Extending the best-fit debate, theory and empirical research suggests that a green HR strategy should coincide with the organisation's business strategy and create an appropriate culture in which to enhance environmental performance. Broadly, the HRM approach to building a low-carbon workplace is to develop and support the workplace's environmental sustainability initiatives (Wehrmeyer, 1996; Ehnert, 2009).

2.4   Green Human Resource Management

This section examines how HR practices influence environmental sustainability in the workplace. Jackson and Seo's (2010) research examines the intersection of strategic HRM and environmental sustainability, and proposes research questions with the stated goal of encouraging more scholarship in the field. Existing GHRM studies highlight the opportunity for improved environmental performance when the goals, policies, and procedures of environmental management systems (EMS) are more closely aligned or "embedded" with HR practices and wider organisation activities (e.g., Brio et al., 2008; Chen, 2011; Jørgensen, 2000). However, this convergence, between HR practices and organisational culture is considered secondary in classic studies of organisational sustainability (e.g., Shrivastava, 1995; Wehrmeyer, 1996). A central question that arises from the literature is whether effective environmental sustainability initiatives can develop from top-down management driven exercises, or are they more likely to be successful if part of a more grass-roots employee-led initiative for environmental sustainability in the workplace. So far, much of the GHRM research has focused on HR practices: recruitment and selection (Gully et al., 2013; Rupp, et al., 2013); performance management and appraisal (e.g., Govindarajulu and Daily, 2004); rewards (e.g., Berrone and Gomez-Mejia, 2009); and

training and workplace learning (e.g., Sammalisto and Brorson, 2008). The role of these HR practices is reviewed below.

Recruitment and Selection

Environmental sustainability could become an important dimension shaping the recruitment and selection process. Research suggests that attracting top candidates is easier for organisations known for superior environmental stewardship (Gully et al., 2013; Rupp, et al., 2013). One obvious way to build a sustainable workplace is through self-selection of prospective employees. For example, German companies such as Bayer and Siemens use their environmental reputation to attract competent employees who are committed to the environment (Jabbour and Santos, 2008). The emerging research suggests that given a choice, people are attracted to green employers that are keenly attuned to climate change issues and have a strong ecological approach (Philips, 2007). Environmentally sensitive job previews combined with accurate portrayal of the organisation's culture can attract talented people with values that match and sustain sustainability (Jabbour, 2011; Wehrmeyer, 1996).

Another way to embed ecological values in the workplace is by selecting people with green-related skills and values. As Townley (1994) points out, selection practices are an important means of "knowing" and managing a culture change. The selection process may be designed to ensure that 'employees committed to the environmental issue have a potential to be hired more than those who do not show an ability to lead the environmental management in a company' (Jabbour and Santos, 2008: 53). Studies also suggest that it may be expedient to start hiring managers who have a proven track record of environmental performance and value environmental protection (e.g., Ramus, 2002). Personality and competency-based tests provide the tools that enable managers to find talented individuals who seem to fit the new culture. Selection tests based on attitudinal and behavioural profiling can also be used to screen applicants for green values. However, the validity and predictive power of these assessment techniques have all been subject to challenge.

Performance Management and Appraisal

Performance appraisal (PA) is an HR practice to ensure that an employee's overall capabilities and work potential are appraised at discrete time intervals (Latham et al., 2008: 365; Pun and White, 2005). Armstrong and Baron (2005) outline the five principal objectives of performance appraisal: to communicate a 'shared vision'; to enumerate what must be delivered and how it

should be delivered; to make employees aware of what constitutes high performance and how they can achieve it; to improve engagement through feedback; and to encourage dialogue to improve performance (cited in Talyor, 2013: 15).

Emergent studies in environmental management (Cox et al., 2012; Garavan and McGuire, 2010) suggest that in those organisations with proactive environmental sustainability programmes, environmental criteria are systematically integrated into employee performance appraisal systems (PAS). These PAS are designed to improve the effectiveness of environmental management over time by guiding employees' actions toward the environmental performance outcomes desired by the organisation. Milliman and Clair (1996) advocate for PAS that encourage environmental activities at work. Jabbour et al. (2010) report that Brazilian manufacturing companies are establishing environmental objectives for their employees, whose performance is evaluated as one of the criteria of the performance appraisal. For example, the Xerox Company has a reward system that recognises employees who meet certain levels of innovation in terms of how they deal with waste reduction, reuse, and recycling (Milliman and Clair, 1996). According to mainstream accounts without performance appraisal pro-environmental behaviours may come to a standstill. Chinander (2001) highlights how many environmental management programmes fail to emphasise the importance of feedback on environmental issues. Continual feedback ensures that employees are aware of their responsibilities and communicates the link between their environmental performance outcomes and rewards (Govindarajulu and Daily, 2004; Jabbour and Santos, 2008).

A number of authors have argued that performance appraisal schemes are part of a drive to enhance the individualisation of the employment relationship (Farnham, 2015: 281) as well as acting as a guide to an employee's actions towards the environmental performance outcomes desired by the organisation (Govindarajulu and Daily, 2004). Following Townley (2005), PAS can be conceptualised as a social technology and in the private sector are designed to articulate environmental performance objectives. PAS also can have a negative influence on employee relations as well as increased workloads for line managers (Scholarios and Taylor, 2014). This thesis sees the need to be context-sensitive as essential. In the public sector, for example, environmental criteria in employee performance appraisal or in 'personal development planning' are likely not to be well developed or to be an aspect of work that is not formally evaluated (Ferlie and Ongaro, 2015).

Reward Management

Research suggests that a well-designed reward system can help motivate employees to achieve satisfactory performance levels, including environmental performance (Govindarajulu and Daily, 2004; Ramus and Steger, 2000). The organisation's reward system provides a good indication of the seriousness of its commitment to environmental sustainability management. It has been argued that the existence of rewards systems that take= environmental performance into account is an indirect reflection of the level of management commitment to environmental management (Govindarajulu and Daily, 2004; Jabbour and Santos, 2008; Patton and Daley, 1998). The rewards can be monetary or non-monetary, and could be tied to individual, group or organisational actions (Milliman and Clair, 1996; Ramus and Steger, 2000).

Monetary rewards may be one of the strongest motivators for encouraging employees to participate in environmental improvement activity (Govindarajulu and Daily, 2004; Ramus and Steger, 2000). For example, aligning compensation practices with environmental strategy has been implemented in North American companies such as Huntsman Chemical, Browning-Ferris Industries, and Coors Brewing Company (Milliman and Clair, 1996), where financial rewards are tied to employees' environmental performance. In this regard, managers will need to determine if environmental responsibilities and initiatives should be incorporated into managers' and employees' performance appraisal. Denton (1999) observes that even in some of the best-known companies for encouraging environmental initiatives, financial rewards were rarely tied to environmental performance.

Studies suggest that workplaces are encouraging environmental activities with nonmonetary rewards such as employee recognition schemes, time off from work, gift certificates, and paid vacations (Govindarajulu and Daily, 2004). For example, Dow Chemical, a leading American multinational corporation, motivates its employees by awarding plaques to employees who develop innovative waste reduction ideas (Denton, 1999). Some employees may be more motivated by formal or informal recognition rather than financial incentives. Empirical findings from six environmentally proactive European firms have shown that one of the most important factors for engaging employees and encouraging creative ideas is management support and company environmental awards (Ramus, 2001, 2002; Ramus and Steger, 2000). This suggests that front-line managers should seek environmental ideas from all employees, and seek opportunities to provide feedback to encourage employee engagement in environmental sustainability. Whether rewards are monetary or nonmonetary in nature, the reward system has

to be supported by an effective communication plan (Parker and Wright, 2001), rewards must be tied to the achievement of environmental objectives (Starik and Rands, 1995), and must be consistent with other aspects of the rewards system (Dechant and Altman, 1994; May and Flannery, 1995).

Training and Workplace Learning

Consensus is growing among academics that the issues of sustainability, organisational change and training and learning are closely inter-related. Training and workplace learning is a primary intervention for developing pro-environmental behaviours (Garavan and McGuire, 2010; Govindarajulu and Daily, 2004; Jabbour et al., 2010, 2011; Sarkis et al., 2010). Much of the training is related to improving employee health and safety, energy saving and waste management. For example, the US company 3M has encouraged employees to find creative ways to reduce pollution through their Pollution Prevention Pays (3P) programme, which has saved the company close to $300 million (Renwick et al., 2008: 7). Training and learning is a necessary component of advanced environmental management systems. The literature suggests that a major factor in a successful EMS is a comprehensive training programme which provides all employees, at all levels of the organisation, with the tools and understanding necessary to conduct themselves in an environmentally aware manner, foster innovation, make environmentally responsible decisions, and contribute to continued environmental improvements (Daily and Huang, 2001; Ulhoi and Madsen, 1996).

The level of employee environmental awareness is one of the most important predictors of the level of adoption and success of an organisation's environmental initiatives. Perron et al. (2006: 553) report that the intent of clause 4.4.2 of ISO 14001 is to 'ensure that employees at all levels of the organisation understand the goals of the EMS and the ways their job activities impact the environment and the achievement of EMS goals.' This understanding allows employees to participate in environmental management efforts, and could lead to improved environmental performance of an organisation. Zilahy's (2003) study of the factors restricting the implementation of energy efficiency improvement indicates that perhaps the most salient restrictive factors were the level of employee environmental awareness. Research findings support the importance of employees being well versed in environmental issues, environmental processes, and the overall functioning of environmental management systems to ensure that an organisation's environmental targets and objectives are achieved (Cohen-Rosenthal, 2000; Perron et al., 2006; Sammalisto and Brorson, 2008).

2.5   Employment Relations and Sustainability

This section focuses on collective dimensions of the employment relationship by examining workplace employee relations, employee voice and the union contribution to creating sustainable workplaces. As a field of study, employee relations has been defined as 'the study of rules governing employment, together with the ways in which rules are made and changed, interpreted and administered' (Clegg, 1979: 1). Over the last three decades, significant employment relations trends have emerged including, a decline in union membership and collective bargaining (Farnham, 2015; van Noosey et al., 2013), which has seen this seminal definition giving way to a greater focus on individual employment relations.

The nature and role of informal social interactions provide an essential dimension of workplace employment relations (Edwards and Sengupta, 2010). 'Informal' employee relations has been defined as 'a process of workforce engagement, collective and/or individual, based mainly on unwritten customs and practice as well as the tacit understandings that arise out of the interaction of the parties at work. As such, informality is dynamic rather than a fixed characteristic, and is highly context specific (Ram et al., 2001: 846). Employee relations scholars have long recognised that an informal dimension of collective relations helps shape and lubricate the employment relationship. Almost fifty-years ago, the influential Donovan Commission reported that Britain had 'two systems of industrial relations'. A 'formal system' consisting of official institutions of trade unions, employers' associations and state agencies, and the 'informal system' that is created 'by the *actual behaviour* of trade unions and employers' associations, of managers, shop stewards and workers' (Donovan, 1968: 12, emphasis added). The report observed that informality informed workplace negotiations because of the predominance of unwritten understandings and of custom and practice (1968: 18). Informal collective relations apply to a wide range of workplace matters including substantive issues covering conditions of employment and procedural issues under which these arrangements are formed and which, in totality, influence performance outcomes (Edwards and Sengupta, 2010; Harley et al., 2010).

Previous studies have emphasised the importance of informal employment relations. Marchington et al.'s (1994) research, for example, emphasises the importance of locating employee involvement schemes within the wider social context. Another illustration of the importance of informal social relations and the context-dependent nature of employment practices is highlighted in a longitudinal study of Hewlett Packard (HP), which argues that informal practice was often more important than formal systems, 'the way in which policies are

interpreted and enacted in practice' (Truss, 2001: 1122). Recent research commissioned by the Scottish Government (2014: 10) highlights the importance of "quality dialogue" from unions and employers working together to achieve more innovative and equitable workplaces. Research by Sennett (2012) sheds further light on the social dimension of the employment relationship in the contemporary workplace. He suggests that workers forge informal bonds and friendships with co-workers including managers, and that although these do not transform work into a conflict-free zone, they do help to create civility in the organisation (2012: 148–9). The term 'employment relations climate' has commonly been used to describe the quality of management-employee relations in the organisation (Kersley et al., 2006: 276). Although the concept of organisational climate is multifaceted, how employees and managers interacted collectively to create the 'climate' of employment relations is considered important because of its role in mediating the link between HR practices and environmental performance outcomes (Norton, Zacher, and Ashkanasy, 2015: 322).

Employee Participation in Environmental Sustainability

This section focuses different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which potentially enable or constrain environmental sustainability in the workplace. It investigates to what extent different forms of employee participation practices, and the interaction between them, are associated with the adoption of environmental sustainability initiatives. In recent years, employee voice is seen as the 'Holy Grail' of employee relations (Emmott, 2015: vii). Mechanisms to allow workers' have a 'voice' in workplace decision making are both the oldest and the latest topic of debate in contemporary employee relations (Johnstone and Ackers, 2015: 1; Wilkinson et al., 2014). Important for this thesis, there is evidence that change management often fails to meet its desired objectives because of lack of collaborative knowledge sharing and employee participation in workplace decision making. However, research originating in the United States on processes to draw on human capability and knowledge as an organisational performance resource has emphasised cooperative mutual gains partnership (Dobbins and Dundon, 2015: 242). UK research has also examined high levels of employee participation to facilitate successful transformative change (Keller et al., 2010), as well as early engagement with trade unions as an effective means of managing change (Scottish Government, 2014: 23).

Correspondingly, employee participation is seen as central to creating a sustainable workplace and improving environmental management (Hanna, Newman and Johnson, 2000; Lund, 2004;

Rothenberg, 2003). Cognitive understanding and emotional attachment to sustainability goals are key factors shaping employees' pro-environmental behaviour and the outcomes of workplace sustainability initiatives (Kennedy, Whiteman and Williams, 2015: 355). While recent GHRM studies have tended to focus on non-union processes, most only go so far as to suggest that in order for sustainability initiatives to be effective, managers should utilise various employee representation arrangements to encourage employee 'voice' (Brio et al., 2007). As Perron et al. (2006: 556) opine, 'the many small actions and decisions that all members of an organization can make in their everyday work can cumulate to large improvements in the environmental impacts of the organization.' The research suggests that when employees are "engaged" through employee participaton processes they will better understand how they can contribute toward environmental sustainability. This highlights further that without the ingenuity and expertise of human capital environmental management initiatives may be limited and superficial.

Employee voice mechanisms such as suggestion schemes, "green teams" (Beard and Rees, 2000; Daily, Bishop, and Steiner, 2007) and "eco-champions" (Brosse, 2010) are major elements of the Green HRM strategy, largely because they provide workers with an opportunity to use their intimate knowledge of work and discretion at work to generate creative eco-friendly initiatives rather than rely solely on managers. The rationale for employee voice processes can be partly explained by the necessary human input into a successful sustainable strategy, a strategy based on low levels of carbon emissions, product differentiation, and high levels of value added and quality.

There are number of competing definitions of employee participation and some authors use the terms "involvement", "participation", "voice" and "engagement" interchangeably. Different labels with overlapping meanings can give rise to the problem of what Johnstone and Ackers (2015: 2) call 'construct validity'. The terms employee 'participation' or 'engagement' are generally used to refer to the social processes that enable managers to communicate with other employees or give workers some degree of 'say' or influence over workplace decisions, sometimes collectively through trade unions. The definition of "voice" in the context of employee engagement outlined by MacLeod and Clarke (2009) starts from a pluralist assumption that 'employee voice is central to any process of exchange and engagement between employers and workers' and based on social exchange theory (Blau, 1964), it emphasises 'seeking employees' views, listening to employees and showing that their opinions are important and have an impact' (Guest, 2015: 55).

In order to ensure a more systematic analysis of employee participation this thesis draws on Marchington and Kynighou's (2012) four dimensions of employee involvement and participation (EIP). The *first* dimensions is that EIP it can be divided into three *'forms'* – direct, indirect and informal (Marchington and Kynighou, 2012: 3338 emphasis added). The term 'direct EIP' is where employees are personally involved in formal practice. For example, this may involve team briefing, upward problem solving and suggestion schemes. Recent employment relations research indicates that these forms of EIP were amongst the most extensive in Europe (Kessler Undy, and Heron, 2004) and the Anglo-American world (Freeman, Boxall, and Haynes, 2007). 'Indirect EIP' is where employees are represented by one of their co-workers or elected trade union representatives on a formal committee, such as for joint consultation or health and safety, on European Works Councils, Company Boards or as part of partnership agreements (Dobbins and Dundon, 2011; Dobbins and Gunnigle 2009; Lavelle et al. 2010) Marchington et al. (1992: 11) define joint consultation as 'a mechanism for managers and employee representatives to meet on a regular basis, in order to exchange views, to utilise members' knowledge and expertise, and to deal with matters of *common interest* which are not the subject of collective bargaining'. As Marchington and Kynighou (2012: 3338) point out the dynamics of 'informal EIP' are less well researched as most studies focus on formal EIP, but given the decline in union influence at work in many countries and growth in customer-facing service sector employment it has been seen either as a 'substitute for or a supplement to formal schemes' (Strauss 1998; Marchington and Suter, 2012). This form of EIP fits with the notion of employee engagement and the idea that 'processes' are more important than formal structures (MacLeod and Clarke, 2009: 92)

The *second* dimension considered by Marchington and Kynighou (2012: 3338) is the 'degree' of involvement, which ranges from very little (information sharing by managers) to a considerable amount (partnership working by managers and workers), with two-way communication and consultation in between these two extremes. In UK workplaces, the degree of EIP tends to be towards the lower end of what has been described as the 'escalator' of EIP (Marchington and Wilkinson, 2005). The escalator concept suggests that 'it is not possible to implement more extensive forms of EIP or meaningful consultation without information being disclosed to workers' (Marchington and Kynighou 2012: 3338). *Third*, EIP can exist at several levels within organisations, ranging from workplace to corporate level. For example, one level is where employee representatives are involved in decisions across the whole organisation, whilst the other is at workplace level. *Fourth*, the final dimension to consider is 'scope' of subject matter.

This broadly differentiates between strategic issues, such as long-term plans that are central to the organisation, such as sustainability planning budget decisions, and short-term issues such as the quality of office paper supplies. While EIP can vary across these four dimensions the use of this framework helps to provide a more robust analysis.

From a critical pluralist perspective, according to Hyman and Mason (1995) participation simply refers to the collective rights of workers, while involvement refers to unilateral management practice and polices aimed at creating 'a flexible and committed workforce to meet competitive challenges' (Lund, 2004: 53). Building on this distinction, a comparison of how the concepts of involvement and participation are linked to managerial processes is illustrated in Table 2.1.

Table 2.1: Different Concepts of Involvement and Participation

Elements within Management	Employee Involvement	Employee Participation
Decision-making process	Management initiated and controlled	Dialectics between top- down and bottom-up managerial tasks allocated to workers
Level of competence	Limited to assignments and functions	Involves high-level decisions
Forms of consultation	Individual only	Collective and individual representation
Strategy for innovation/ change	Management through goals and visions	Dialogue and cooperation
Views on the employees' role in workplace changes	Employees as important production factors	Employees as political actors

(Source: Adapted from Lund, 2004: 53)

Lund's classification shows different levels of employee participation from the perspective of workplace democracy. The distinction between 'employee involvement' and 'participation' may be conceptualised in terms of the following six categories: (1) information, (2) practical involvement, (3) consultation, (4) negotiation, (5) codetermination and (6) self-management (Lund, 2004: 53). These categories only relate with the question of '*how*' employees participate, and therefore must also be combined with categories describing the subject of participation. These subject categories can be described in terms of increasing levels of participation in managerial decisions such as: (1) welfare decisions, (2) shop-floor operational decisions, (3) tactical business decisions and (4) strategic business decisions (Walters and Frick, 2000).

From a critical pluralist perspective, *participation* involves workers exercising a countervailing and upward pressure on management control, which need not imply unity of purpose between managers and other employees (Hyman and Mason, 1995). Employee *involvement*, in contrast, is and generally narrower in scope and perceived to be a softer form of participation, reflecting unitary perspectives that assume communication should be directed at the workforce as a whole rather than being restricted to union channels (Marchington, 2001). As Williams and Adam-Smith (2010: 28) argue, 'the term "employee involvement" (EI) is more usefully applied to managerial initiatives that are designed to further the flow of communication at work as means of enhancing the organisational commitment of employees'.

Over the last two decades, employee involvement, at least in terms of the number of establishments which appear to practise one or more forms of direct EI, has become 'a prominent feature of the employment relations landscape' (Marchington, 2001: 249). It is argued that if researchers, practitioners and policy makers wish to understand why workers might become engaged and more committed to their organisation's pro-environmental practices, it is valuable to know how employee voice affects line managers and workers directly (Marchington, 2008: 247). In the context of employee engagement outlined in the MacLeod and Clarke (2009) report 'voice' is central to any process of exchange and engagement between employers and workers. It emphasises seeking workers' views, listening to workers and showing that their opinions are important and have an impact (Guest, 2015: 55). Summers and Hyman's (2005) analysis indicates that organisations utilising combinations of direct and representative participation are more likely to have high trust relations as well as superior performance. This argument about whether employee voice practices yield positive outcomes has been long debated (Budd, 2004; Scottish Government, 2014; Marchington, 2008; Richardson et al., 2010; Wilkinson et al., 2010).

This thesis draws from Richardson et al.'s (2010) research and in doing so it seeks to examine workers' experiences of EIP in environmental sustainability. The term 'direct consultation' is used to describe dialogue between management and employees, without the mediation of union representatives (Richardson et al., 2010: 23). Richardson et al., (2010: 23) define '*influence*' by the range and importance of issues addressed and the degree of employee involvement in organisational decision-making covering, for example, operational issues and company strategy. This can be 'direct' (without the mediation of union representatives) or 'indirect' (with the role of union representatives). While *'degree of influence'* can result from consultation, it is in workplaces

reporting higher rates of both direct and indirect EIP that one would expect employees to have notably more influence (Charlwood and Terry, 2007; Purcell and Georgiadis, 2007). Heller (2003: 144) has also highlighted a 'clear distinction between participation, meaning taking part in an activity, and *power*, which implies a degree of influence over the activity', suggesting that there is little evidence of a shift in the distribution of power and influence towards employees in organisations adopting EIP initiatives or partnership agreements (emphasis added). However, as Richardson et al. (2010) observes, increasing the level of employee participation, broadening the range of issues covered, and strengthening the degree of employee influence is more likely to occur through 'indirect' means of influence (with the role of employee representatives).

In the UK, the climate of employment relations has changed radically over the last three decades (Farnham, 2015: 231). In the post-2008 recession, a key question remains: 'Who gains what from being involved?' Employers and managers have the power to drive (or not) employee participation. It is plausible therefore to assume that employers and managers expect to see some advantage from investing in time consuming voice mechanisms, and HR practices which critics might see as 'an expensive waste of time' (Wilkinson et al., 2010: 5).

Trade Unions and Sustainability

This section examines the actual and potential role of unions and their representatives in creating environmentally sustainable workplaces. The social processes by which workers' interests are defined and redefined and the range of interests and strategies that are comprised are central issues of employee relations (Kelly, 1998: 8-9). Critical employee relations scholarship gets its explanatory power from its anchoring of the concepts of workers' interests in the theory of capitalist exploitation, for its insistence on multiple levels of analysis, and for its appreciation of the complexity of workers' interests under capitalism (Kelly, 1998: 8). The notion of being an organisation that represents workers' interests is the underlying characteristic of a labour union. Accordingly, Hyman (1994: 122) argues that workers' interests are socially constructed and that unions 'through their own internal processes of communication, discussion and debate (…) can help shape workers' own definitions of their individual and collective interest'. This statement raises questions about what workers' interests are, what social processes define them, and how unions determine which competing interests to represent (Simms and Charlwood, 2010: 127). Competing workers' interests illustrate that there are tensions within unions about a desire to prioritise the more narrow economic interests of the majority of members, and a desire to take a broader, more solidaristic, social justice approach. For example, in his analysis of trade union

sustainability policy, Lund (2004: 68-69) argues that 'the trade union movement has still not developed an independent handling of interests that (are) connected with efforts to achieve sustainability at the workplace level.' From this perspective, critical theorists argue that the union movement must develop more sophisticated and nuanced policies by shifting from its 'one-sided focus on economic growth' to sustainable industries and sustainable jobs (Gottlieb, 2001)

For UK unions the issue of sustainability offers perhaps a different set of opportunities and challenges. By responding to what has been described as one of the "big issues of the day" unions can influence sustainability in the workplace (Hampton, 2015; Pearce, 2012; Räthzel and Uzzell, 2012; Silverman, 2006). The challenge facing the trade union movement is that sustainability goals can be in conflict with the perceived interests of different groups of workers within a single union and between unions. In 1998, in the UK, the Trade Union Sustainable Development Advisory Committee (TUSDAC) was created in order to bring trade unions and government together in a forum for consultation on sustainable development and environmental issues. According to the TUSDAC policy, the forum has advised the government that, 'the issue of climate change must not only involve energy and industrial policy initiatives, but employee involvement, at the workplace, regionally and nationally'. TUSDAC recommends that unions negotiate a 'Sustainable Workplaces Framework Agreement' with employers to improve workplace employee participation in environmental sustainability initiatives. The British Trade Union Congress (TUC) has also called for enhanced environmental employment rights (e.g., access to information, environmental training, and consultation and participation in environmental management).

Environmental issues have yet to significantly influence UK employment relations (Hampton, 2015). Studies on sustainable workplaces expose some of the contradictions and challenges associated with transitioning towards a low-carbon economy. Since the 1990s, the strategy has been to campaign for collective 'green' agreements and rights of involvement in environmental issues (e.g., statutory rights and recognition for environmental representatives). However, the general trend in the UK, one that mirrors declining union membership, is one where there has been reluctance by employers to involve unions in what employers consider a management prerogative (Renwick et al., 2013; Brosse, 2010). Oates (1996), for example, reports that the Confederation of British Industry (CBI) is opposed to mandatory environmental auditing and to union involvement. Accordingly, currently only 14 per cent of union representatives are granted

time off to carry out environmental activities as part of their union duties (Pearce, 2012; TUSDAC, 2007).

A critical contribution to the field is a qualitative case study that considers the possibility of convergence and/or alliance between the occupational health and safety (OHS) and the environmental movements in Ontario, Canada (Storey, 2004). The author cautiously argues that while there are benefits to both movements working as an alliance, class differences between the two movements mitigates against any enduring partnerships. Similarly, Mayer's (2009) 'blue-green coalitions' study investigates the historical and contemporary role of the occupational health and safety movement in contributing to environmentalism in the United States. The author adopts a sociologically informed case study approach in order to highlight contemporary examples of alliances between unions and environmentalist groups. Mayer's study contributes to the contemporary reframing of the 'jobs versus the environment' debate by drawing connections between workplace health and safety issues and broader environmental justice and grassroots community organising themes. For example, Mayer (2009: 5) argues that negative economic externalities such as environmental pollution and occupational health hazards disproportionally affect people at the lower end of the socioeconomic structure, the working class, which in theory creates natural allies between labour unions and environmentalists (Obach, 2004). In the US, Mayer (2009: 4) suggests that distinct logics of collective action and class differences prevent durable 'blue-green' alliances:

> The lack of a broad coalition is in part due to the distinct types of logics guiding the actions of the two movements. The labor movement, organized hierarchically through a national confederacy down through workers affiliated to a union local, relates to its membership in an instrumental fashion… (T)he environmental movement benefits from voluntary participation from its members and is organized more horizontally… Environmental organisations must persuade their members that supporting their particular organisation is an efficient way to act on their own individual values… In this model, it is assumed that these two very distinct logics of collective action are rooted in the class differences between the two movements and often prevent collaboration from occurring.

Historically, cooperation between the UK trade union movement and the environmental movement has been at best intermittent and, at times openly hostile. One narrative of environmentalists and unions portrays the former as 'job destroyers' that threaten workers' employment. In the UK, the 2012 announcement for joint British and French collaboration on civil nuclear power, allegedly creating 1500 jobs, is a classic case study on non-cooperation between the labour and green movements. Similarly, in the United States, community and green activists' opposition to the Keystone XL pipeline in 2015 is an example of this perceived conflict of interests. Relations between unions and green movements exist within a complex web of historical links, values, electoral politics and perceived conflicting interests (Obach, 2004;

Hrynyshyn and Ross, 2011; Mayer, 2009; Silverman, 2006; Storey, 2004). Current debates concerning the role of collective bargaining and union strategies on environmental issues in the UK have identified obstacles to the building durable alliances between trade unions and environmental advocacy groups (Hampton, 2015). In the current economic climate, unemployment and job security issues are reason enough to be pessimistic about possible 'Blue-Green' coalitions, or the emergence of legislated environmental statutory rights in the workplace.

In the UK, employees and unions have no legal rights of involvement in workplace environmental issues and, to date, few employers have signed collective 'green' agreements (TUC and Allan, 2008). This situation is likely to remain while there is no legal requirement for mandatory union involvement in environmental issues. While a 2008 TUC survey of three hundred union members reports that 82 per cent of respondents agree/strongly agree to the question: 'The union should be doing more to protect the environment', national union policy has yet to be meaningfully translated into collective action. Minimal investment in workplace environmental training and zero government commitments for statutory environmental representative rights have caused environmentalists and union leaders to lament the lack of cooperation between unions and green advocacy groups and political parties. The responsibility for an absence of 'gains sharing' opportunities does not rest entirely with reluctant employers.

Current employment relations research correctly highlights that economic growth and human welfare are interconnected and simultaneously supported by ecological systems (Hampton, 2015; Pearce, 2012; Hrynyshyn and Ross, 2011; Räthzel and Uzzell, 2012; TUC and Allan, 2008). The underlying argument expressed in the literature is primarily two-fold: first, sustainable development provides improved long-term economic stability and increased employment opportunities and, second, sustainable development safeguards health and safety standards for workers and environmental protection for local communities. For example, Lund (2004: 46) illustrates the union movement's change in strategy towards the environment:

> The issue of environmental protection and the concept of sustainability slowly became part of the development of new union strategies. Gradually, the labour movement gained a more positive view of the environmental movement because environmental modernization was acknowledged as a development that could create new jobs. For the unions, the conflict 'environment vs. job' became 'environmental jobs'. Furthermore, collaboration regarding environmental issues provided the labour movement with a new platform for gaining political influence (…) The labour movement also wanted to use the environmental agenda in the development of the members' working conditions and strengthen the prevention of health risks at the workplace level.

The emerging union strategy is implicitly advocating for environmental justice within the workplace and community. The union movement's new orientation towards sustainability has

provided an opportunity for the movement to strengthen its societal engagement and to defend its role as a collective movement for societal change. Thus, issues linked to the concept of sustainability have potentially become a focal point for discussion on union renewal, 'especially among intellectuals of the labour movement arguing for a revitalization of social movement unionism where the handling of workers' interests goes beyond social partnerships and business unionism' (Lund, 2004: 46). The challenge of course, is mobilising rank and file union members around environmental justice issues.

While the union movement is attempting to frame sustainability improvements as possibilities to ensure long-term employment interests, it is plausible to argue that historically and culturally speaking, the union movement is deeply rooted in industrial society. 'Traditional economic growth, full employment and material wealth are still the basic union principles in the handling of workers' interests' (Lund, 2004: 48). This traditional policy towards economic growth has arguably generated conflicts of interest and ambivalence regarding the trade union movement's orientation towards sustainability (Nyberg, 2001). In view of this, Le Blansch (2001) argues that, the union movement has failed to develop a proactive strategy that could form the basis of their position and participation in the debate about sustainable workplaces. Evidence is provided by Roelofs' (1999: 7) survey of trade unions' views on environmental issues, which evinced that unions' position on 'just transition' is focused on the issue of employment opportunities and security.

In a similar vein, Lund (2004: 47) posits that, 'this (union) approach has been characterised by a give-and-take attitude, where demands in the areas of pay and occupation are conceded in return for a supportive participation in efforts aimed at achieving sustainability'. This arguably defensive and underdeveloped approach leaves little scope for workers' collective participation in the development of a vision for sustainable workplaces. Nevertheless, despite these limits, Lund (2004: 48) argues that, the union movement should be viewed as 'a central player in terms of creating sustainable development due to their historical role and experience in attending to social consequences in times of economic and societal change. It is best placed to relate sustainability to everyday life because it is a broad-based social movement, historically orientated towards work.'

European trade unions have extended their traditional occupational health and safety focus by strongly supporting environmental improvements and green skills training. The union leadership

has by-and-large responded positively to what has been described as the 'big issue of the day' or what others call the 'climate crisis' (Klein, 2015). In the United Kingdom, the Trades Union Congress (TUC) has included climate change and environmental management issues in their union representative training, and called for investment in training as a cardinal principle in creating decent and green jobs. O'Grady (2010) describes the union position as follows: 'Without green skills, there can be no decent green jobs; without decent green jobs, no flourishing green industries; and without these green industries, we will not—cannot—build a green economy.' The central premise therefore is that unions can play a constructive role in decarbonising the economy and building low-carbon workplaces (Pearce, 2012).

In Scotland, trade unions have attempted to strengthen engagement in sustainable work at workplace level by calling for major investments in energy efficiency and renewable technologies, mandatory environmental audits, and bringing forward environmental sustainability issues into "mainstream" bargaining agendas (Pearce, 2012; TUC, 2010). Recent research undertaken in Scotland, suggests that investing in the capacity of union members to engage in dialogue about low-carbon initiatives can better create mutual gains and improve environmental performance (Scottish Government, 2014: 53). For unions, the low-carbon agenda is rooted in their long-standing aspirations for healthy working conditions, for social justice, for high-skill jobs, and for 'decent' work (Mayer, 2009; Storey, 2004).

The link between green working conditions and social justice is perhaps not self-evident, but exposure to toxic health hazards disproportionately affects blue-collar workers (Agyeman, Bullard and Evans, 2003; Agyeman and Evans, 2004; Dobson, 1998; Klein, 2015). As Mayer reminds us, workers are on the front line of the fight for removing toxic substances that threaten the health of workers *inside* the workplace and members of local communities *outside* the workplace (2009: 190). An environmentalist bluntly expresses the logic behind the union approach, 'While making people work shitty jobs to 'earn' a living has always been spiteful, it's now starting to seem suicidal' (Klein, 2015: 94).

Recent studies highlight that economic growth and human welfare are interconnected with and dependent upon the natural environment. The underlining assumption is that environmentally sustainable industry may provide the foundation for economic growth and sustainable employment. In terms of processes, in the minority of workplaces unionised research suggests that bottom-up sustainability initiatives are likely to be more successful than top-down management interventions (Lund, 2004). In this context, unions could be involved in union-

management partnership for developing sustainable workplace processes as part of a broader business strategy.

Workplace Partnership and Mutual Gains

This section focuses on the potential for a partnership approach towards environmental sustainability in the workplace. The balance of economic efficiency and the notion of fair treatment for workers is the critical underlying debate in the field of employment relations (Budd, 2004: 30). Since the 1980s, the idea of forming a 'new social contract' between capital and labour – through signing management-union cooperation or workplace partnership agreements' – has generated debate in the UK. Kelly (1998: 14) illustrates the shift of the debate towards partnership-based approaches in the field of employment relations:

> As the post-1979 decline of trade unionism gathered pace and showed few signs of letting up, academic and other commentators turned their minds from the analysis of decline to the prognosis for growth. The old 'adversarial' industrial relations was castigated as destructive and irrelevant in the current era of intensified world competition. Implicit in much of this writing is the idea that a militant response by workers to the current demands of employers would be self-defeating and that any return to a more 'adversarial' pattern of industrial relations is either highly improbable or, if it is though possible, would be undesirable for all those involved.

Proponents of partnership agreements have argued that, 'more cooperative and consensual' workplace employment relations may lead to improved 'mutual-gains' outcomes (e.g., Kochan and Osterman, 1994; Appelbaum et al., 2000; McKersie et al., 2008). The central thesis of the 'mutual gains' or 'partnership approach' of workplace employment relations is that increased employee cooperation enables employers to develop more efficient low cost working practices, and then share these 'organisational gains' with employees through improved wages and enhanced employment security (Samuel and Bacon, 2010: 431). Although there is no generally accepted definition of mutual gains (Cullinane et al., 2014; Dobbins and Dundon, 2015; McKersie et al., 2008; Wilkinson et al., 2014) it can be understood as follows: first, 'management and workers are conscious of the shared consequences of their actions and therefore openly exchange information in a cooperative fashion to highlight areas of joint interest; second, they then generate decision-making options, through problem-solving structures; and third, choose those options that offer the highest joint returns' (Dobbins and Dundon, 2015: 242). According to Dietz, Cullen and Coad (2005) most workplace scholars understand cooperative mutual gains partnership working to mean 'a programme for managing workplace employment relations based on joint problem solving among the various "partners" which delivers mutually beneficial outcomes for all' (Dietz et al., 2005: 290). Workplace partners would include employers, employees, and trade unions, where applicable. While partnership studies have

primarily focused on the concept of firm-level partnership and the impact on trade unions (Danford et al., 2004; Lucio and Stuart, 2005; Oxenbridge and Brown, 2004; Terry, 2003), few studies have explored the potential for partnership in non-unionised organisations (Cullinane et al., 2014; Dietz et al., 2005; Upchurch et al., 2006). The primary objective of the partnership approach is the delivery of mutually acceptable gains for the main stakeholder groups: employers, employees, and unions (when applicable). The social processes through which partnership is established and conducted is through continuous joint problem-solving, alongside open and timely exchange of accurate information, on a broad range of issues affecting employees' work and employment conditions (Dietz, Stops, and Walwei, 2012: 291).

The structure of these employee representation arrangements is expected to include permanent 'employee voice mechanisms' at the local workplace and strategic levels, and can take direct consultative and/or indirect representational forms (IRS, 2000: 7; Rittau and Dundon, 2010). Research suggests that 'dual channel' or 'hybrid' systems of union and non-union representation are associated with the best outcomes (Kersley et al., 2006; see van Wanrooy et al., 2013: 66). For example, in a unionised workplace a combination of both indirect and direct forms of employee participation can be most effective (Charlwood and Terry, 2007). However, unsurprisingly trade unions, and some critical scholars, have argued that only unions can provide the 'independence, strength and wealth of experience' that enables effective joint problem solving (Dietz et al., 2005: 292). Research suggests that partnership and mutual gains is far more likely to be observed in unionised representative forms (e.g., Guest and Peccei, 2001). Understandably, the TUC's partnership model views direct consultative forms of employee engagement as an "agenda-setting" prelude to formal management-union discussions.

Detractors of partnership-based approaches, however, remain skeptical. Critical workplace scholars correctly highlight the potential negative risks of partnership agreements for workers and unions. Lucio and Stewart (2005: 811), for example, maintain that the concepts of *distributive risks* (e.g., terms and conditions of employment, the intensity and nature of work) and *political risks* (e.g., legitimacy of union as agent of worker representation) ought be at the heart of any discussion on partnership-based approaches to employee relations. Research demonstrates that because future pay increases are linked to increased profits, workers inextricably assume increased levels of economic risks. As Lucio and Stewart (2005: 812) argue:

> Partnership assumes a sharing of risk by capital and labour. It assumes that social agents and organisations through a securing of social and rights-oriented practices within work and employment linked to and founded upon a 'high-commitment' approach to work can respond to the external environment of change. However, the risks to workers and unions, and even to management, of

adopting such a strategy are apparent within the British context where institutional frames of support are lacking.

From a critical pluralist perspective, workers receive an increased burden of responsibility as economic risks are shifted from employers towards workers (assuming managers and shareholders receive their share of profits before workers). Further, critics argue that partnership agreements may prioritise employer interests, reinforce managerial control, have a negative impact on workplace stress, threaten to undermine unionism, and offers no real benefits for workers in most cases (Danford et al., 2005, 2008; Heaton, Mason, and Morgan, 2002; Taylor and Ramsay, 1998). Critical scholars are arguably more realistic about capitalist employee relations when they argue that management-union partnership agreements are 'not immune from destructive effects of enhanced demands for shareholder value' (Thompson and Harley, 2007: 161).

While some proponents of partnership have argued that union survival is, in effect, incumbent upon a willingness of unions to work more cooperatively with employers (Terry, 2003), others recognise the limitations of the 'broad-based' or 'issues-based' forms of workplace partnership (Marks et al., 2008). Arguably, the TUC's 'Green Workplaces' initiative falls within the issues-based partnership approach as it seeks to make the case that a union-management partnership on sustainability and environmental management will have positive outcomes for workplace performance, resource efficiency, and social equity (TUC and Allan, 2008). In some cases, therefore, employee participation in environmental management decision-making may emerge as a result of bottom-up, employee or trade union driven action, instead of top-down, management driven forms of employee involvement.

2.5   Theoretical Integration

This chapter has critically evaluated a distinct body of published literature covering environmental sustainability, leadership and management, HRM and employment relations. The interdisciplinary nature of the review is reflective of the perspective that questions of organisational leadership, organisational culture, and managerial behaviour provide a wider definition of employee relations and influence environmental sustainability outcomes. For the purpose of this thesis, *employee relations,* is used to encompass the management of the employment relationship, in its individual and collective forms, and provides a more inclusive and managerially focused field of study. Given that questions of organisational leadership, culture, and managerial behaviour are increasingly seen to fall within HRM theory and research, this

thesis brings together for the first time distinct streams of literature to focus on environmental sustainability and employee relations in the workplace. In adopting the term employee relations this thesis is better positioned to engage with the individualist orientation of mainstream environmental management and the collectivist orientation of traditional employment relations. Table 2.2 presents the most relevant studies examining the contribution of employee relations to environmental management in the workplace.

Table 2.2: Dimensions of Employee Relations and Environmental Management: Conceptual and Theoretical Influences

Dimensions of Employee Relations	Core Concepts and Ideas	Main Studies
Leadership and Management	Corporate sustainability	Docherty, Kira and Shani (2009); Ones and Dilchert (2012)
	Environmental management systems	Jabbour, Santos and Nagano (2010); Zutshi and Sohal (2004)
	Environmental Leadership	Egri and Herman (2000); Robertson and Barling (2013, 2015)
	Environmental culture and climate	Chen (2011); Norton, Zacher and Ashkanasy, (2015); Jabbour (2011)
	Workplace low-carbon behaviour	Cox et al. (2012); Boiral, Paille and Raineri (2015); Kennedy, Whiteman and Williams (2015)
HR practices	Recruitment and selection	CIPD (2007); Gully et al. (2013) Philips (2007); Rupp et al; (2013)
	Performance appraisal	Milliman and Clair (1996); Jabbour and 2008)
	Rewards	Govindarajulu and Daily (2004); Ramus and Steger (2000)
	Training and workplace learning	Garavan and McGuire (2010) Sammalisto and Brorson (2008)
Employment relations	Workplace employment relations	Brio, Fernández and Junquera (2007); Oats (1996); Ramus (2001)
	Employee participation	Lund (2004); Hanna, Newman and Johnson (2000); Rothenberg (2003)
	Green teams and champions	Beard and Rees (2000); Daily, Bishop and Steiner (2007)
	Trade unions	Hampton (2015); Mayer (2009); Räthzel and Uzzell (2012); Silverman (2006); Storey (2004); Pearce (2012); TUSDAC (2005); TUC and Allan (2008)
	Partnership and mutual gains	Wilkinson et al., (2014); Danford et al. (2008); Kochan and Osterman (1994); Lucio and Stewart (2005)

The review of environmental leadership and organisational culture literature highlights the need to examine the role of leaders' influence in creating an environmentally sustainable workplace. Research consistently points to the need to examine the personal values held by leaders toward the environment (an element of organisational culture) and whether employees have shared

perceptions of those values (organisational climate). It also highlights the important role of leaders and line managers in priority setting and resource allocation.

The review of HRM literature focuses attention on how selective HR practices can drive change through formal and informal levers. In this regard, the emerging GHRM literature focuses on a cluster of HR practices including selection, rewards, appraisal and training that can influence employees' attitudes and behaviours. The review of employment relations and literature highlights the importance of the employment relationship and, in particular, examines different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which potentially enable or constrain environmental sustainability. Finally, this literature review has established that with regard to environmental management little has been written about the opportunity for management-union partnership and mutual gains. This thesis aims to address this perceived gap by examining the role trade unions and their representative and the potential for a partnership approach towards environmental sustainability in the workplace.

The strength of an inclusive approach, one that examines selective HR practices, workplace leadership and organisational culture, is the recognition that the quality of human relations in context-specific organisational settings matter (Bolton and Houlihan, 2007). Acknowledging the nature and complexity of workplace human relations is essential given the "change component" of environmental management. Indeed, employee relations, a product of a social and historical process, ultimately shape productive performance (Edwards et al., 2002). Custom and practice (Brown, 1972), or what in contemporary management parlance can be viewed as organisational culture, is viewed by some workplace scholars to be central to the understanding of environmental performance variations in organisations (Chen, 2011). Underlying these arguments is that workplace employee relations, both formal and informal, are embedded within a social context. Adopting such an inclusive perspective helps explain why sustainability initiatives are successful in one context and not another, for example.

The goal of this thesis is to establish the role of employee relations in enabling and improving environmental management in the workplace. The purpose of this chapter is to introduce the concept of sustainability and examine how this might be integrated within a workplace context to create positive environmental outcomes for organisations and society. The objectives of this thesis are: (1) to identify the drivers, stakeholders, benefits and barriers to workplace

environmental sustainability; (2) to explore how leadership, culture and HR practices influence environmental sustainability in the workplace; (3) to analyse different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which can potentially enable or constrain environmental sustainability in the workplace; and (4) to evaluate the potential for a partnership approach towards environmental sustainability in the workplace. The primary research question therefore is: '*How do employee relations influence environmental management in the workplace?*'

This thesis is important for a number of reasons. First, the unit of analysis is the workplace, both a significant contributor to carbon emissions and the site for implementing environmental sustainability improvements. Second, the primary focus is on employee relations practices; how they directly and indirectly and informally and formally influence environmental management, key social processes that have received relatively little attention in the GHRM literature. Third, this thesis provides an alternative approach to much mainstream GHRM research, in that it is more inclusive for it gives voice to all workplace stakeholders. It identifies the limitations of GHRM studies that neglect to consider histories and conflicting goals and interests of different stakeholders – employers, employees and trade unions - that potentially influence environmental management in the workplace.

Chapter 3

Methodology

The purpose of this chapter is to explain the methodology chosen for this thesis. This follows from the concluding section of chapter two, which summarised the main gaps of the literature and identified the conceptual approach taken. The aim of this chapter is to outline the research philosophy, the research strategy and the research methods used to answer the primary research question. First, the chapter begins by restating the research objectives and primary research questions before introducing the research strategy adopted. Second, it establishes the workplace as an important site for implementing environmental sustainability initiatives. It provides a description of the case study organisations to illustrate the range of different environmental sustainability activities and employee relations scenarios examined in this thesis. The chapter concludes by arguing that a mixed-method approach, one that combines both qualitative and quantitative techniques, provide richer and more meaningful data to enhance and validate the findings in this thesis.

3.1 Research Objectives

Research methods are not simply a neutral 'toolkit' but are a reflection of how social scientists view and study social reality (Bryman, 2012: 19). Through the adoption of both quantitative and qualitative research methods this thesis has been shaped by the influence of pragmatism (Onwuegbuzie and Leech, 2005). This thesis examines environmental sustainability and workplace employee relations in six public and private sector cases in local government, healthcare, higher education, transport and energy located in Scotland. The principal research question is: '*How do employee relations influence environmental management in the workplace?*' Specific objectives and research questions are:

1. To identify the main drivers, stakeholders, benefits and barriers to workplace environmental sustainability.

   - What drives public and private sector organisations to implement environmental sustainability initiatives the workplace?

   - Who are the key stakeholders that influence environmental sustainability in the workplace?

   - What are the potential benefits of implementing environmental sustainability initiatives in the workplace?

   - What are the barriers to workplace environmental sustainability?

2. To explore how leadership, culture and HR practices influence environmental sustainability in the workplace.

   - How do leaders support a green or sustainability-oriented culture?

   - How do HR practices influence environmental sustainability in the workplace?

3. To analyse different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which can potentially enable or constrain environmental sustainability in the workplace.

   - What are the employee participation practices that support environmental sustainability in the workplace?

   - To what extent are the different forms of employee participation practices, and the interaction between them, associated with the successful adoption of environmental sustainability initiatives in the workplace?

4. To evaluate the potential for a partnership approach towards environmental sustainability in the workplace.

   - What is the actual and potential role of unions and their representatives in the process towards environmental sustainability in the workplace?

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The goal of this thesis is to examine the role of employee relations in enabling and improving environmental management in the workplace. The objectives are to understand the dynamics of the relationship between HR practices, individual and collective employee relations and environmental management, as well as to explore the scope for partnership working and mutual gains. The research examines a bundle of HR practices including selection, rewards, appraisal and training that can influence employees' attitudes and behaviours. Three dimensions of employee voice dimensions are examined: direct versus indirect, informal versus formal, and communication versus influence. The research explores how organisational leadership and culture, as enablers of change, shape line managers' and other employees' perceptions of environmental management. The research seeks to incorporate the broader social context into the analysis of the workplace employee relations of environmental management.

For this research, questionnaire surveys and manager and worker interviews were conducted at six workplaces in Scotland. The workplace is the unit of analysis for this research and the sub-unit is environmental management operating inside the workplace. However, as with other units of analysis, the characteristics of employee relations are derived from the behaviour and perceptions of *individual* managers and workers within and across the six case studies. Questionnaire and interview participants were shown the following definition of environmental management to clarify the focus of the research study: '*Environmental management is an attempt to control the human impact on and interaction with the natural environment in order to preserve natural resources. In the workplace, this includes encouraging energy efficiency, encouraging waste reduction and recycling, encouraging water conservation, and encouraging staff to use alternative low carbon forms of transportation (e.g., bus, train, or bicycle)*'. As the units of analysis within the workplace and the sub-unit of environmental management, individual employees are characterised in terms of their membership of an occupational position (e.g., environmental manager or HR manager) or a group (e.g., train drivers) within the workplace.

3.2   Research Strategy

A research strategy is a broad orientation to the collection and analysis of data (Bryman and Teevan, 2005). The theoretical framework is developed from the core concepts and ideas found in the extant literature on environmental sustainability and employee relations. This thesis has been shaped by various epistemological and ontological considerations influenced by pragmatism (Creswell and Clark, 2011; Onwuegbuzie and Leech, 2005; Teddlie and Tashakkori, 2009). This thesis adopts pragmatism which mixes methods from the two major paradigms (positivism/

interpretivism) on the basis of "what works" (Cherryholmes, 1992) with relatively little consideration for the philosophical consequences. This approach is explained by Tashakkori and Teddlie (1998: 21) who argue that 'for most researchers committed to the thorough study of a research problem, method is secondary to the research question itself, and the underlying worldview hardly enters the picture, except in the most abstract sense'.

The survey questionnaire is a research instrument typically used for the purpose of generating large amounts of quantitative data for statistical analysis in order to test a proposed hypothesis. This suggests that it is possible for a researcher to empirically measure a social phenomenon in order to generate data that can be used to test a hypothesis in order to make generalisations. For that reason, what is known as a positivist epistemological and objectivist ontological orientation will commonly guide a research study utilising quantitative methods of inquiry.

In contrast, the analytical focus of qualitative inquiry is on the question of *how* social reality is constructed and increasingly, in recent years, in terms of "interpretative practice" – the assemblage of procedures, conditions, and resources through which reality is captured, understood, organised, and conveyed in everyday organisational life (Holstein and Gubrium, 2000: 488). Thus, interpretative practice engages both the *hows* and the *whats* of social reality. In terms of workplace research, interpretative practice is centred both in how managers and the managed construct their work experiences and organisational life that inform and shape their reality. Interpretative practice commonly engages the semi and structured interview to generate qualitative data (Silverman, 2001; Fontana and Frey, 2005). The qualitative data generated from an interview may function to strengthen the researcher's understanding and sharpen the analysis of the studied phenomenon. Researchers who choose to conduct interviews, however, must appreciate that reality is subjective, open to individual interpretation, and that social settings are complex and often shaped by unequal power relations. Given the complex nature of human action and what humans think about their social reality, an interpretive epistemological and constructionist ontological orientation will typically shape research studies that use the interview method. For example, Byrman and Teevan (2005: 10) argue that, the interpretive epistemological orientation reflects the division between an emphasis on the 'explanation of human behaviour' - the main focus of the positivist approach to the social sciences and the preference for an 'empathic understanding' of human behaviour.

3.3   Research Design

The research design chosen to answer the primary research question is the case study. The case study is prominent in qualitative research studies and therefore often associated with qualitative research. However, a case study design may be used in both quantitative and qualitative research. The case study approach was chosen for this thesis because of its focus on a contemporary 'real-life' phenomenon (Yin, 2008) and because it is 'well suited to researching motives, power relations, or processes that involve understanding complex social interactions' (Kitay and Callus, 1998: 104).

The main objective of case study research is to develop as full an understanding of the case as possible. As such, it encourages the researcher to investigate *why* certain decisions were made, *how* they were implemented, and with *what* outcomes. A case study research strategy aims to collect, organise, and analyse a wide range of information, while simultaneously aiming to preserve and understand the wholeness and unity of the case. Proponents maintain that case studies produce more rich and detailed data than what would be produced through statistical analysis techniques alone (Stake, 2005). Detractors, on the other hand, argue that case studies are difficult to generalise or infer causality because of the alleged inherent subjectivity of the data. The case study is highly relevant for providing a better understanding of workplace processes and complexities that are difficult to observe in any other way.

In order to deepen our understanding of environmental sustainable initiatives and workplace employee relations, this thesis adopts a multiple case study approach. The multiple case study approach adopted allows the researcher to independently examine diverse organisations in the public and private sector and draw thematic conclusion across them. This provides a snapshot of practices during the timeframe when the research takes place (Creswell, 2013). This approach allowed the researcher to investigate a variety of environmental management practices and employee relations scenarios across the multiple case studies.

The research used a combination of methods: in-depth interviews, focus groups and surveys. As the primary research method, in-depth interviews and focus groups were used in order to establish context, to clarify the meaning of concepts, and to identify key processes under investigation. As employee relations have a processual as well as substantive parts, and seeking to avoid simply relying on 'counts' of how many workplace practices are supposed to be in place (Marchington, 2008: 247), extensive qualitative data were generated from HR managers,

environmental managers, line managers and other employees, and union representatives. The in-depth interviews were used primarily to understand the attitudes and opinions of managers and union representatives. The focus groups were used primarily to elicit the views of knowledgeable employees. To supplement the in-depth interviews and focus groups, survey questionnaires were used to generate descriptive data and also provided the opportunity to reach a wider group of potential participants. Furthermore, open-end questions were used to allow participants to provide more detail, to encourage more creative and contextualised answers, and to give their contact details for a follow-up interview. The purpose of the quantitative data were to generate descriptive statistics to describe the basic features of the workplace and management concepts under investigation in the research. This provided an overall better understanding of each case study organisation and allowed for a more robust analysis across all six cases.

The research employed a 'between-method triangulation' strategy to 'reduce the likelihood of misinterpretation' of data and to clarify the meaning of the research findings (Stake, 2005: 453-454). The purpose for combining survey and qualitative methods is that it addresses validity issues that can stem from the biases inherent in any single method (Modell, 2005: 233). Therefore, through the use of multiple methods, the 'robustness' of results can be increased and findings can be strengthened through cross-validation from multiple sources of data (Bryman and Teevan, 2005; Creswell and Clark, 2011; Saunders et al., 2009). This thesis used a concurrent triangulation strategy in which the qualitative and quantitative phases were conducted at the same time. The in-depth interviews, focus groups and surveys were used to confirm, cross-validate, or corroborate findings within the study. Priority was given to qualitative data collection and analysis in this thesis. In reporting the findings, the quantitative results are presented first followed by the qualitative data, which are more heavily weighted. The methods discussed in this chapter are presented in the order of priority or the weight given to each method in the data collection and analysis stages.

Case Selection

The principal research question of this thesis asks how employee relations influence environmental management in the workplace. Therefore, a focus on exemplars is needed. In addition, while the literature has examples of single case studies of employee participation in environmental sustainability (e.g., Lund, 2004) to the best of this researcher's knowledge no one has examined multiple exemplars simultaneously in order to understand the dynamics of employee relations and environmental sustainability in the public and private sectors, and across different sectors.

For the purpose of this thesis, exemplars are organisations that are considered to be leaders in their sector or industry on environmental performance while still maintaining economic viability. Identifying exemplars in environmental management is complicated because rigorous metrics of environmental performance are absent in many industries (Cox et al. 2012). In addition, claims of sustainability activities are often criticised for being little more than "green-washing" (Lewis, 2016). Given these challenges this researcher identified a pool of potential exemplars using a range of data, all of which came from third parties. The focus on exemplars provide an evidence-base for good practices in improving environmental management in Scottish public and private sector organisations.

Suggestions for the number of cases to use in multiple case study research vary, but Eisenhart (1989) suggests seven cases as the maximum that a person can mentally process. Yin (2008) suggests that data should be collected until saturation. In management research there are numerous examples of multiple case study research using from three to ten cases (e.g., Jabbour and Santos, 2010, Cox et al., 2012). This researcher stopped at six cases because I was near or at a saturation point and was also reaching the limits of the amount of data that could be processed in one study.

The case studies were purposefully selected for this thesis using a criterion approach. Purposeful sampling is used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest (Patton, 2005). The aim of a criterion approach is to identify and select all cases that meet some predetermined criterion of importance (Palinkas et al., 2015). The requirements of the case selection therefore included organisations in Scotland that had received sustainability or environmental awards. Another requirement of case selection was to have representation from both the private and public sectors. This was important in order to investigate the potential differences and similarities in environmental management and employee relations across and between the selected cases. Further, selection privileged those workplaces that could demonstrate evidence of employee participation in environmental management. Alternative purposeful sampling techniques such as extreme case or typical case approaches were considered. For example, placing greater emphasis on breadth and variation such as an extreme case approach is better suited to examining differences between management practices within a specific industry. In contrast, placing greater emphasis on depth and similarly such as a typical case approach is better suited for an investigation of similarities of management practices within a specific industry, even though both types of sampling approach include a focus on both differences and similarities.

The case selection process began by identifying organisations that fulfilled the requirements. A registry of sustainable workplaces was created, including data of 40 organisations located in Scotland (see Appendix A). In December 2012, I had an informative meeting with a committee member of the Scotland PLC Sustainability Awards. Working with this contact was useful for gaining contact information and for evaluating "green" organisations in Scotland. The suggested organisations for this study included: transport companies, brewing and distillery companies, construction companies, food processing companies, hospitals, and local council authorities. The research variables between these organisations included, private vs. public sector, unionised vs. non-unionised, large sized vs. small-medium sized, and consensual employment relations vs. antagonistic employment relations. As an interdisciplinary researcher located in both the Department of Human Resource Management and Department of Civil and Environmental Engineering, I have fostered a high-level of trust amongst my political, trade union and professional contacts in Scotland. However, I am cognisant of the politics surrounding workplace research and how this may influence access to organisations and research decisions. Huw Beynon (1988: 21) explained the challenges workplace researchers can face:

> Organizations can be in overt conflict with each other: competing for the loyalty and commitment of the employees – the members. Research in these contexts therefore can be understood as a *political* process; it involves the researcher in mediating power relationships. Often researchers get squeezed by this process; not infrequently they are squeezed out.

I believe that my business school affiliation, the topic and arguably the "cooperative nature" of sustainability as a workplace issue granted me privileged access to a sample of Scottish and UK work organisations. From April to July 2013, a research advertisement e-mail was sent to 14 organisations that best matched the research requirements requesting their participation in the study. The e-mail was first sent to HR directors, but because of the nature of research topic in most cases environmental managers proved to be a more suitable first-point of contact. The initial e-mail was followed-up by sending a research advertisement package with sample research instruments including survey and interview questions. The research advertisement package was then followed-up by e-mails, phone calls and, on request, face-to-face meetings with managers. By early 2013 five organisations - CouncilOrg, HealthOrg, UniversityOrg, BusCo and RailCo - agreed to participate in the study. In November 2013, the sixth case, EnergyCo, also finally agreed to participate.

The knowledgeable employees selected as a contact between the researcher and the organisation were either environmental managers, HR managers, or a line managers responsible for some environmental duties. Initial contact was then made and preliminary questions about the purpose

of the research and the time commitment expected were answered in face-to-face meetings. Based on this information, it was determined that each of these organisations was [1] relevant to the adopted conceptual framework; [2] could provide evidence of employee participation in environmental management; and [3] would provide on-going access throughout the entire case study (Voss et al., 2002).

The chosen group of organisations match the requirements for the case selection. The number of organisations agreeing to participate was similar to the number adopted by similar studies (e.g, Jabbour et al., 2010). The case study protocol is outlined in Table 3.1.

Table 3.1: Case Studies Protocol

Main research question	How do employee relations influence environmental management in the workplace?
Time frame	April 2013 to June 2014
Location	Six public and private sector organisations in Scotland with sustainability awards (CouncilOrg, HealthOrg, UniversityOrg, BusCo, RailCo, and EnergyCo)
Interview types	Face-to-face interview = Management interview (30 participants), Employee interview (14 participants), Union representative interview (5 participants), Total participants: 49 in all six case Focus group = Total participants: 47 in five cases (CouncilOrg: 11 participants; HealthOrg: 8 participants; UniversityOrg: 6 participants; RailCo: 7 participants; BusCo: N/A; EnergyCo: 15 participants)
Interview participants	Total participants = 87 (37 female / 50 male) in all six cases
Questionnaire types	Single respondent questionnaire = HR questionnaire (6 respondents), EM questionnaire (6 respondents) in all six cases Multiple respondent questionnaire = Management questionnaire (36 respondents), Employee questionnaire (68 respondents) in all six cases
Questionnaire respondents	Total respondents = 116 in all six cases

Overview of Case Study Organisations

This section provides an overview of cases study organisations. It focuses on each case study organisation and the different types of sustainability activities and employee relations scenarios across the cases. This thesis, undertaken in Scotland, seeks to contribute to understanding the role of workplaces in reducing carbon emissions. Environmentally, with workplaces accounting for one-fifth of UK carbon emissions (DECC, 2009), reducing the environmental impact of work organisations is essential to limiting the human agency effect on the carbon cycle (BIS, 2015). The politics surrounding climate change in Scotland and the strategic objectives of energy and resource efficiency in the Scottish Government's climate change legislation, developing employee involvement with environmental issues at work is arguably important for notions of social legitimacy and, moreover, to supporting sustainable economic development (Cox, Higgins, Gloster and Foley, 2012; Lund, 2004; Pearce, 2012).

The world's leading climate scientists report that more than half of the global carbon dioxide allowance has been used up, and, unless checked, the accumulation of carbon in the atmosphere will warm the planet by more than 2°C by 2045. The 2013 Intergovernmental Panel of Climate Change Working Group report (Working Group Contribution to the IPCC Fifth Assessment Report Climate Change, 2013 states that:

> Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.

The scientific evidence from 209 leading climate scientists is clear: the planet is past halfway to triggering dangerous climate change, and they are "unequivocal" that global warming is a result of human actions (Harvey, 2013).

The temperature in Scotland has risen by around 0.8C between 1980 and 2009 (UK Climate Projections, 2009). Scotland has been experiencing dryer summers, reduced snowfall and winters with heavier and more severe rainfall. To combat climate change, the Climate Change (Scotland) Act, which was passed unanimously by the Scottish Parliament in 2009, sets ambitious targets for Scotland to reduce its greenhouse gas emissions by 42 per cent by 2020 and 80 per cent by 2050, based on 1990 levels (Kerr, 2012: 5).

The Climate Change (Scotland) Act 2009 is the centerpiece of the Scottish Government's climate change policy framework. The Act requires public sector bodies to engage in climate change mitigation and adaptation activities, integrate greenhouse gases in to decision-making, and act in

way that it considers most sustainable. For example, the Act requires public bodies to set annual greenhouse emissions targets and demonstrate compliance with duties through transparent and open reporting

Despite lower growth rates due to the global economic recession, climate change and sustainability remain on the Scottish Government's political and industrial agenda. In recent years, organisational leaders have faced increased pressure to develop an effective response to climate change and other key sustainability challenges (Suff, 2012). Given the strategic importance of energy and resource efficiency in the Scottish Government's climate change objectives, building employee engagement with climate change and sustainability issues in the workplace is critical (Pearce, 2012). Table 4.1 presents some basic information about each organisations with respect to their size, contextual situation, trade union recognition, environmental policies and activities.

Table 3.2: Descriptive Information about Case Organisations

	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo
Public or private organisation	Public	Public	Public	Municipal company	Private	Private
Organisational turnover	£2,000m budget	£602m budget	£402m budget	£132m	£778m	£28,304m
Number of employees	21,000	3,500	12,650	2000	4,700	19,000
Unions recognised	Unison, Unite, GMB	Unison, Unite, RCN, FCS	UCU, Unite, Unison, EIS* and Prospect*	Unite, Unison	ASLEF, RMT, TSSA, Unite	Unison, Prospect Unite, GMB
Union density	70%	40%	30%	80%	80%	60%
Separate environmental budget	Yes	No	Yes	No	Yes	Yes
Full-time environmental manager or sustainability officer	Yes	Yes	Yes	Yes	Yes	Yes
Publically available environmental policy published in last five years	No	Yes	Yes	Yes	Yes	Yes
Publically available carbon management plan	Yes	Yes	Yes	No	Yes	Yes
Conducted an environmental audit	Yes	Yes	Yes	Yes	Yes	Yes
EMS accreditation	No	No	No	No	ISO 14001	ISO 14001

Key: CouncilOrg= Local Authority; HealthOrg = National Health Board; UniOrg = University; BusCo = Bus company; RailCo = Train operating company; EnergyCo = Energy company *Unofficially recognised (have members through TUPE arrangements). RCN = Royal College of Nursing; NFCS = Federation of Clinical Scientists.

Scotland's economy is predominantly made up of small and medium enterprises (SMEs). In 2014, there were an estimated 335,015 private sector enterprises. Most were small enterprises (98.2 per cent) employing between 0 to 49 employees; 3,780 (1.1 per cent) were medium-sized, employing 50 to 249 employees, and 2,295 (0.7 per cent) were classified as large enterprises with a workforce of 250 or more. These percentage shares have remained relatively stable since 2000 (Scottish Government Statistics, 2015). In contrast, all six selected cases are large, employing from 2,000 to 21,000, an average workforce of over 10,000 employees. In all cases, the turnover is at least £132 m per year or they operate with an annual budget of at least £402 million. In four of the cases union density is over 60 per cent according to participants. In all cases either a full-time environmental manager or sustainability officer had been appointed. These four variables alone illustrate the noticeable observation that the selected cases investigated are atypical of Scotland's business landscape.

The Organisation Profiles of Selected Case Studies
CouncilOrg

This case study examines a Carbon Management Programme at CouncilOrg, which was led by the Department of Land and Sustainability[3]. The programme's intended aims are to achieve carbon reductions through a range of energy efficiency, transport and recycling projects. The case examines the role of public-private partnership in contributing to the delivery of sustainability objectives. Further, it sheds light on how organisations can take advantage of organisational change as an opportunity to develop sustainability initiatives and to enlist the knowledge and experience of employees to improve office infrastructure. In addition, the case explores the implementation of the not-for-profit Green Wardens initiative intended to tackle both youth unemployment and climate change in Scotland. This case illustrates how financial pressures in the public sector can promote planned change and the necessity to reflect on work design to deliver cost savings alongside workplace environmental improvements.

CouncilOrg is in one the UK's top five urban centres. The region is home for many of the UK's leading firms in engineering, financial services, brewing and distilling and software development. Historically, it had been one of the most significant cities in the UK for engineering, manufacturing and shipbuilding. Twentieth century deindustrialisation caused the city to experience a lengthy period of relative economic decline, leading to high levels of

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[3] The name of the department has been changed to protect anonymity.

unemployment, population decline, urban decay, welfare dependency and health problems for the city's working class residents. However, the city has experienced a period of relative economic revival and regeneration of inner-city areas. Despite this economic resurgence, parts of the city remain characterised by social deprivation with high levels of 'economically inactive' working age residents, an increasing gap in life expectancy between the most affluent and deprived areas and high levels of air pollutant concentrations.

CouncilOrg employs approximately 21,000 people, with approximately 3,020 people working in the Department of Land and Sustainability. There is a relatively high rate of unionisation with approximately 70 per cent of workers members of Unison, Unite or GMB. The council's political leaders have publicly committed to becoming one of the "most sustainable cities in Europe". CouncilOrg's long-term regional development strategy involves an integrated partnership-led approach to energy infrastructure and large-scale urban renewal projects to transform business, housing, transportation, tourism and infrastructure of the city. The Department of Land and Sustainability manages the city's parks and open spaces, local transportation network, cleansing and waste strategy, environmental health and sustainability, scientific services and trading standards. It plays a key role in monitoring sustainability performance and regularly reports findings to the public, CouncilOrg and other stakeholders.

HealthOrg

This case study involves a conference and training venue within a large quasi-autonomous non-governmental organisation that provides advice and services to NHS Scotland. The case illustrates how sustainability initiatives have centred on event and conference planning, which provides an interesting context for the adoption of low carbon behaviours. The event planning industry more broadly presents unusual challenges not faced elsewhere in the economy, most notably that a significant proportion of the building's carbon use is consumed by customers rather than employees. Work teams were assigned the primary responsibility for developing a culture whereby employees felt more confident and motivated towards the organisation's sustainability strategy. Finally, this case provides an example of union-management partnership for sustainability at a corporate level.

HealthOrg Centre is part of the National Services Scotland (NSS), a non-departmental public body with an annual budget of roughly £600 million and a workforce of approximately 3,500 people across Scotland. Its remit is to provide expert advice and national strategic support

services to the rest of NHS Scotland. Accountable to the Scottish Government, the NSS plays an active role in the delivery of healthcare to patients and the public. This supporting role means that the organisation works closely with NHS Health Boards in the delivery of both healthcare and business support services. CouncilOrg Centre employs approximately 17 people with about 40 per cent of workers unionised by Unison, Unite, Royal College of Nursing or the Federation of Clinical Scientists. The Centre's primary clients are the Scottish Government and NHS health boards in Scotland. The venue offers state-of-the-art technology and meeting facilities, events management services, and an in-hours catering service specialising in organic and Fairtrade food and drink. The Centre has received external recognition for its environmental activities and achieved 'Gold' in the 'Keep Edinburgh Clean' Award for excellence in waste minimisation and recycling, as well as Gold Award in the 'Green Business Tourism Scheme', which acknowledged their efforts in the areas of environmental policy, energy, waste, water, transport, catering, purchasing, biodiversity, training, health promotion, communication, and business partnership.

UniversityOrg

This case study provides an example of how integrating sustainability principles within long-term corporate planning and commitment from senior management can transmit clear signals to stakeholders about movement to low carbon behaviour. The case examines how a newly created Department of Sustainability[4] has helped create a comprehensive corporate sustainability strategy. UniversityOrg uses a number of employee involvement participation (EIP) processes to involve staff and students both to implement sustainability projects and to generate ideas for new initiatives. In particular, the creation of a university-wide sustainability award scheme has provided a framework for evaluating low carbon initiatives while functioning to recognise publicly the efforts of their employees and students. The case also highlights the role of employee engagement processes and face-to-face communication around sustainability issues and decision-making.

UniversityOrg is an internationally recognised research-intensive institution among the UK's universities. It is deeply entrenched within the social fabric of the city. It does not have a main campus, but instead all the buildings and facilities are distributed through the metropolitan centre. UniversityOrg operates with an annual budget of approximately £402 million and has a population of approximately 43,000 people consisting of 12,000 employees and 31,000 students. It is equivalent in size to a small town and emits at least 114,000 tCO2e each year. The

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[4] The name of the department has been changed to protect anonymity.

Department of Sustainability was officially launched in 2014 with the stated aim of helping the university become "a world leader in addressing global challenges". To achieve this ambitious goal, The Department of Sustainability seeks to inspire and support employees and students to create a sustainable and socially responsible community at the university. The department employs approximately 19 people with about 30 per cent of workers unionised and are members of University and College Union.

The Department of Sustainability was originally formed from a grass-roots community group of staff and students working to create a low carbon university. In 2009, the group received approximately £335,000 from the Scottish government's Climate Challenge fund to employ six staff and 20 interns for 16-months period to conduct a comprehensive study of its carbon emissions, and then to use the survey's findings to champion lasting cuts in the emissions, primarily through a carbon reduction campaign. The department has recently appointed a new Director of Sustainability, formerly Head of Environmental Strategy at the Scottish Environmental Protection Agency. The department's employees work as part of a dedicated team focusing on communications, programmes and stakeholder engagement. The main responsibilities of employees in the department include: (1) championing energy reduction and environmental-related projects and activities; (2) sustainability governance and reporting; and (3) participating on university-wide committees that have a social responsibility and sustainability remit.

BusCo

BusCo is a large municipal bus company that has introduced substantial planned changes to reduce its carbon footprint in an industry that generates a considerable amount of air-pollution. This thesis examines how the appointment of a dedicated environmental 'champion' who occupied a senior management position has developed a sustainability strategy within the organisation. BusCo's approach to low carbon activity has not involved reconfiguring formal structures, such as green teams and committees, present in other case study organisations. The BusCo case illustrates what can be achieved through strong top-down leadership, high investment in new technology and a very pragmatic approach to sustainability strategy.

BusCo is one of the largest of the twelve municipally owned bus companies in the UK. The company operates in Scotland bus services, trams, park and ride, sightseeing bus tours and travel shops, maintains a driving school and engineering depot and employs approximately 2000 people

with revenues of over £132 million per annum. Typical of the transport sector, there is a high rate of unionisation among drivers with over 90 per cent of drivers belonging to Unite the Union. Currently BusCo is experiencing stable employment relations after industrial action in 2005 related to concerns about privatisation and disagreements over pay. Since the late 1990s, the company has undertaken extensive route development and invested £100 million in buses, including improved fuel efficiency technology (UK Bus Awards, 2007). In 2013 passenger numbers increased from 110.7 million to 115.4 million, an increase of 4.2 per cent on the previous year and a 25-year high.

BusCo's sustainability strategy began with the creation of the Environmental Manager position in 2008, which was later expanded 12-months later to include corporate social responsibility. The Environmental and Corporate Social Responsibility (ECSR) Manager is responsible for environmental issues such as reducing noise and air pollution and carbon emissions, along with a CSR remit for community engagement. The company's CSR activity principally focuses on teaching employability and accessibility skills to secondary schools or to people with special education needs in the local community. The ECSR Manager is a member of Scotland's 2020 Climate Group and has led the BusCo team to win five Scottish national awards including, the Best Green Large Company of the year in 2012, the Vision in Business for the Environment Scotland (VIBES) award in 2012, and the coveted Contribution to Sustainable Transport award at the National Transport Awards in London in 2013.

RailCo

This case study of a train operating company demonstrates the relevance and value of trade union involvement when organisations introduce sustainable low-carbon practices. The case examines the introduction of eco-driving techniques and new technology that helps train drivers operate their trains in a more energy-efficient manner. The case also demonstrates how environmental reporting can encourage changes in employee behaviour that support sustainability. Providing feedback on the progress towards environmental targets helps increase awareness and engages employees with corporate-level targets for carbon reduction. This case also illustrates how organisations, in which decisions are typically taken at senior levels of corporate hierarchy, can find opportunities for employee involvement to enable workers and their representatives to contribute to the change process. The case also provides learning for large organisations with highly mobile and geographically dispersed workforces that are attempting to engage employees in environmental sustainability.

RailCo, as the name suggests, is a train operating company in Scotland owned by Transport Group plc, a large transport company, registered in the UK. The Transport Group operate bus, coach, rail, and tram services in the United States, Canada, Denmark, UK and Ireland. The company reports that it employs approximately 124, 000 people globally with revenues of over £6.5 billion per annum. RailCo is a product of the 1980s and 1990s privatisation movement. RailCo emerged from the deregulation of bus services in the late 1980s, when it purchased municipal and nationalised bus operators. In the late 1990s, the company expanded into railways with the privatisation of British Rail. RailCo is the main train operating company in Scotland and out of all of Transport Group's train companies it was the largest. On 1 January 2004, the Strategic Rail Authority and the Scottish Executive awarded the franchise to RailCo. In April 2008, Transport Scotland granted RailCo a three-year franchise extension. In October 2014, RailCo lost the contract to operate the £2.5 billion passenger train franchise to Abellio, an offshoot of Dutch national rail operator Nederlandse Spoorwegen, after operating the service for more than ten years.

The majority of Scotland's 340 passenger stations are operated by RailCo and under Network Rail ownership. RailCo's passenger train fleet is maintained at five depots strategically dispersed around the country. The core occupations are characterised by large gender imbalances with 80% of the workforce being male. It operates with a two-tier payroll system, reducing the overall wage costs by hiring new employees at a wage less than incumbent employees, which potentially impacts on employment relations. RailCo has a high level of union membership especially train drivers with over 90 per cent unionisation. Train drivers, engineers, conductors and ticket collectors, hospitality and other stations employees are members of three transport unions ASLEF, RMT, TSSA and the general union Unite. The case provides an example of how unions and employers can constructively contribute to creating sustainable practices and behaviours through cooperation on workplace learning for driver environmental training and accreditation.

EnergyCo
This case study provides an example of how embedding sustainability principles within corporate values coupled with a commitment from senior management can indirectly affect carbon emissions. This case demonstrates how incentivising change through setting targets linked to individual financial incentives in a performance management culture can contribute to employee low-carbon behaviour. It also illustrates how an organisation can take a robust stance on

transport policies to tackle both commuting behaviour and travel at work. EnergyCo's performance management system (PMS) specifically evaluates employee performance against each of the company's core values, and therefore offers a useful snapshot at an organisational-level of how low-carbon behaviours are embedded through a PMS.

EnergyCo is the UK's broadest-based energy company and considered as one of the "Big Six" energy suppliers. Its business activities include the generation, transmission, distribution and supply of electricity; the production, storage, distribution and supply of gas; and electrical and utility contracting. It has also recently moved into domestic appliance retailing and telecoms networks, along with providing new services relating to household energy efficiency and working with customers to manage energy-related debt. EnergyCo is one of the UK's largest generators of renewable energy with approximately £13 billion market capitalisation. The company has grown from employing 16,500 people UK-wide five years ago to 19,000 today. In Scotland, EnergyCo currently employs approximately 5,500 people with about 60 per cent of workers unionised in its Scottish sites in a number of unions: Unison, Prospect, Unite, and GMB. At a strategic level, sustainability principles are embedded within EnergyCo's six core values, which were established in 2006. The core values are: safety, service, efficiency, sustainability, excellence and teamwork. These values are widely promoted by management and articulated in all areas of the business. These values are introduced to employees during their company induction. In 2012, the UK's energy companies came under increased regulatory and consumer pressure over household bill increases with politicians calling for more regulation of the energy sector. In March 2014, arguably fearful of direct government intervention, EnergyCo announced a number of key strategic changes including a freeze on household energy prices and separation of the group's retail and wholesale businesses, along with the cancellation of three planned offshore wind farms and 500 voluntary redundancies. In April 2014, performance related pay was introduced to a reportedly divided workforce. Prior to the change, Unison and Unite balloted their members. The poll indicated that customer service employees supported the offer and engineering employees rejected the proposal.

At the heart of any environmental sustainability strategy is minimising the environmental impacts of operations and employee work-related activity. As a starting point, environmental policy may function to outline an organisation's approach to managing and reducing carbon impacts and provides the framework for targets and objectives. According to Cox et al. (2012: 31) there are three main levels at which organisations measured the impact of their sustainability activities.

Level 1: measure the impact of schemes directly on employee behaviours. For example, it is possible to count the number of people who cycle to work according to the number of bike racks used. Other types of transport behaviours may be more difficult to measure and require employee surveys. Level 2: use intermediate variables to measure outcomes. For example, reductions in energy use or the amount of waste being recycled. Finally, level 3: monitor and record overall change in carbon emissions. Carbon 'footprinting' is the process of quantifying the greenhouse gas emissions associated with human activity. Carbon footprints are more difficult to quantify, and there is no single preferred method to measure GHG output.

The case study organisations did not provide accurate information on impact measurements, and gathering such data is beyond the scope of this thesis; but overall initiatives in the areas of energy and transport appear to produce the largest cost savings and reduction in carbon emissions. Typically case study organisations have invested in additional infrastructure such as low carbon vehicles or energy efficiency lighting at the same time as encouraging employee behaviour change. As a result, when indicators such as energy or fuel usage decline, it is difficult to disaggregate the impact of employees' behavioural changes from infrastructure changes. BusCo particularly reported this where eco-driver training was accompanied by the purchase of new low carbon buses. Some initiatives are easier to measure than others. For example, increases in recycling rates can be more easily attributed to changes in behaviour.

There are also challenges in comparing the impact of sustainability initiatives between case studies. The cases come from different sectors with a different scope for making efficiency-savings and are therefore not necessarily comparable across organisations. More specifically, the cases study organisations often adopted a number of different methods for measuring environmental impact and the information collected was not always comparable. Importantly, the initiatives were implemented over different time periods, and changes in indicators have accordingly been measured over different timeframes.

In summary, across the case studies, organisations of all types engaged in a range of sustainability initiatives, rather than a single initiative in isolation. Case study examples demonstrate a range of activities of different scale and complexity. Those schemes that tend to cost very little money and time to implement, in particular recycling and energy saving initiatives, unsurprisingly were more prevalent than fundamental high-investment changes such as new transport initiatives. Furthermore, case study organisations tend not to use standardised methods of measuring

impact and therefore the researcher faces a major challenge to compare the initiative effects across organisations.

Semi-Structured Interviews

Forty-nine face-to-face semi-structured interviews were conducted with HR managers, environmental managers, line managers, union representatives and employees across the six case studies. The length of the interviews ranged from 30 to 120 minutes, a total time of over 45 hours. Details of the manager and union representative interviews are shown in Table 3.2. Details of employee interviews can be found in Appendix B. Data collection in case studies most frequently occurs through face-to-face interviews (Fontana and Frey, 2005). The qualitative research interview can be defined as 'an interview, whose purpose is to gather descriptions of the life-world of the interviewee with respect to interpretation of the meaning of the described phenomena' (Kvale 1983: 174).

Informed by Silverman (2001: 99), semi-structured interviews with key workplace stakeholders were undertaken for the following considerations: first, they enabled an investigation into the complex 'why' and 'how' questions, rather than just considering the 'what', 'where', and 'when' questions. This provided for a more in-depth understanding of how the research question applied to each particular setting. Second, they captured how each participant understood and related to a particular workplace. Fontana and Frey (2005: 696) describe this exchange as an "active process" that requires a "collaborative effort" on behalf of both the interviewee and the interviewer. Lastly, although the interview schedule guarantees a degree of uniformity across the sample, each particular interview was different due to new questions generated by particular answers given by the interviewee. This process potentially contributed to the depth and overall quality of the data collected. In sum, by drawing on the knowledge and experience of the interviewee, my own analysis improved significantly which enhanced the reliability and validity of the findings

Although measurement is not a major preoccupation among qualitative researchers it is still important to consider issues of reliability and validity when conducting face-to-face interviews. For instance, Fontana and Frey (2005: 698) argue that, 'increasingly qualitative researchers are realising that interviews are not neutral tools of data gathering but rather active interactions between two (or more) people leading to negotiated, contextually based results.' This suggests that the presence of the interviewer can lead to what is called a 'distorting effect' whereby the

interviewer guides the behaviour of the respondent in a particular direction. In essence, the charge is that the researcher 'constructs' rather than reports social reality (Fontana and Frey 2005: 703). For this reason, I was sensitive to how my interactions could potential influence respondents' behaviour and therefore avoided passing judgement on participants' answers or responses.

Table 3.3: Details of Manager and Union Representative Interviews

Organisation	Job title	Gender	Date
CouncilOrg	Principal Officer Environmental Strategy	F	2013.08.27
CouncilOrg	Principal Officer Carbon Management	M	2013.08.13
CouncilOrg	Carbon Manager	F	2013.08.20
CouncilOrg	Assistant HR Advisor	F	2013.08.13
CouncilOrg	Green Party City Councillor	F	2013.10.23
CouncilOrg	Project Lead Energy Efficiency	M	2013.08.28
CouncilOrg	City Planner & Department Convenor (Unison)	M	2014.04.23
HealthOrg	Sustainability Manager	M	2013.07.08
HealthOrg	Head of Unit, Chair of Sustainability Group	F	2013.07.08
HealthOrg	Conference Coordinator, Environmental and Equality Lead	F	2013.07.09
HealthOrg	Estates Manager	F	2013.07.08
HealthOrg	Wellbeing and Equalities Manager & Steward (Unison)	F	2013.10.07
UniversityOrg	Sustainability Advisor	M	2013.07.02
UniversityOrg	Deputy Director of Human Resources	F	2013.08.22
UniversityOrg	Sustainability Engagement Manager	F	2013.07.21
UniversityOrg	Sustainability Communications Manager	M	2013.07.07
UniversityOrg	Operating Manager	M	2013.07.16
UniversityOrg	School Administrator, Convenor of the Joint Unions Liaison Committee & Environmental Representative (UCU)	F	2014.01.15
BusCo	Environmental & Corporate Social Responsibility Manager	M	2013.08.21
BusCo	Head of Human Resources	M	2013.08.21
BusCo	Driver & Shop Steward Convenor (Unite)		2013.12.16
RailCo	Head of Environmental Compliance and Sustainability	M	2013.06.02
RailCo	Employee Relations Manager	M	2013.06.02
RailCo	Employee Engagement Manager	F	2013.06.02
RailCo	Environmental Manager	F	2013.06.26
RailCo	Graduate Environmental Manager	F	2013.07.11
RailCo	Facilities Manager	F	2013.07.11
RailCo	Operations Manager	F	2013.06.02
RailCo	Driver & District Council Secretary (ASLEF)	M	2013.07.31
EnergyCo	Carbon Reduction Commitment & Energy Efficiency Manager	M	2014.06.24
EnergyCo	Engagement Manager	M	2014.04.27
EnergyCo	Facilities Manager	F	2014.04.27
EnergyCo	Engineering Team Manager	M	2014.04.27
EnergyCo	Wayleave Officer	M	2014.04.27
EnergyCo	Fault Dispatcher	M	2014.04.27
		N = 35	

Note: N = total number of respondents (managers and union representatives)

The key questions on environmental management and workplace employee relations posed by this thesis' face-to-face interviews are an adaptation of questions that had already been used in previous studies. The interview schedule for managers included: (a) three question about environmental management, one about the drivers of implementing environmental sustainability initiatives, one about the stakeholders who influence environmental sustainability strategy, and one about the barriers to environmental management; (b) seven questions about the workplace employee relations and environmental sustainability, one about environmental communication, once about organisational culture, one about the integration of human resource management and environmental management, one about employee participation in environmental management, one about workplace employment relations, and two about the role of trade unions, collective bargaining and mutual gains. The interview schedule for union representatives included: (a) one question about the stakeholders of implementing environmental sustainability initiatives; (b) one question about environmental communication; and (c) seven about the role of trade unions, one about union policy, one about employment relations, three about union participation in environmental management, and two about collective bargaining and mutual gains. For example, to examine the perceptions of environmental managers on the drivers of sustainability initiatives, this study builds on Walker et al.'s (2008) study and in face-to-face interviews managers were asked the question: '*What are the main drivers for you implementing environmental sustainability initiatives?* To examine the role of internal and external stakeholders this study builds on Zibarras and Ballinger (2011) and Gabzdylova et al.'s (2009) research on sustainability stakeholders. In face-to-face interviews managers and union representatives were asked, '*Who are the key stakeholders and how do they influence environmental sustainability strategy*?'

Regarding employment relations and the role of union, the term 'employment relations climate' has commonly been used to describe the quality of management-employee relations in the organisation (Kersley et al., 2006: 276). The concept was examined in face-to-face interviews when both managers and union representatives were asked, '*How can workplace employment relations contribute to creating an environmentally sustainable workplace?*' To examine respondents' perceptions of union participation in environmental sustainability this study asked several questions of managers and employees. In face-to-face interviews managers were asked: '*Is there a role for unions to contribute to environmental sustainability*?' And both managers and union representatives were asked, '*To what extent does collective bargaining facilitate environmental sustainability*?' Union representatives were also asked: '*How can unions contribute to the outcomes of environmental sustainability?*' And they were asked, '*What has been the most significant proposal (if any) the union has made to management on environmental sustainability?*' Finally, the interviews explored employees' perceptions of union representation

and influence on environmental sustainability matters within their workplace. In face-to-face interviews both managers and union representatives were asked: '*Do you think there is scope for increased cooperation or joint working between unions and management on environmental sustainability?*' Managers were also asked: '*What are the challenges of working with trade unions on environmental sustainability?*' And union representatives were asked: '*Why should unions participate in environmental sustainability issues?*' They were also asked, '*What do you see as key for unions to move forward on environmental sustainability issues?*'

Focus Groups

Morgan (1997: 6) defines the focus group as 'a research technique that collects data through interaction on a topic determined by the researcher'. Five focus group interviews with forty-seven participants were conducted in five of the six cases. The length of focus group interviews ranging from 60 to 90 minutes, at total time of over 6 hours. Details of the focus groups are shown in Table 3.3

For this research, focus groups involved inviting knowledgable employees to discuss environmental management issues based on a semi-structured interview schedule. In addition, in three of the five cases focus groups also included a group activity designed to help participants identify the key barriers and facilitators of sustainability initiatives in their workplace. Compared to other qualitative methods, as a data gathering technique, focus groups are positioned between individual interviews and ethnographic participant observation of groups. For example, the data arise from both interaction between participants and interaction between the moderator and the group. Drawing on the work of Morgan (1997: 8), focus groups were undertaken for the following reasons: first, the format allowed this researcher to collect concentrated amounts of data and 'to observe a large amount of interaction on a topic in a limited period of time'. In comparison to individual interviews, focus groups have a reputation for "efficiency" in terms of gathering equivalent amounts of data. In comparison to participant observation, their strength lies in terms of their ability to produce concentrated amounts of data on precisely the topic of interest. This strength is one reason for the focus group's reputation for being "quick and easy" (Edmunds, 2000).

Table 3.4: Details of Focus Group Interviews

Organisation	Job title	Gender	Date
CouncilOrg	Principal Officer Carbon Management	M	2013.08.13
CouncilOrg	Carbon Manager	F	2013.08.20
CouncilOrg	Sustainable Development Officer	M	2013.08.18
CouncilOrg	Energy Officer	F	2013.08.18
CouncilOrg	Carbon Management Team (a)	F	2013.08.18
CouncilOrg	Carbon Management Team (b)	F	2013.08.18
CouncilOrg	Carbon Management Team (c)	F	2013.08.18
CouncilOrg	Green Warden (a)	M	2013.08.18
CouncilOrg	Green Warden (b)	F	2013.08.18
CouncilOrg	Green Warden (c)	M	2013.08.18
CouncilOrg	Green Warden (d)	M	2013.08.18
HealthOrg	Head of Unit, Chair of Sustainability Group	F	2013.07.08
HealthOrg	Conference Coordinator, Environmental and Equality Lead	F	2013.07.09
HealthOrg	Conference Coordinator, Health Promoter Lead	F	2013.07.09
HealthOrg	Conference Coordinator, Travel Champion	F	2013.08.27
HealthOrg	Office Manager	F	2013.08.27
HealthOrg	Administrative Assistant	F	2013.08.27
HealthOrg	Library Services Manager	F	2013.08.27
HealthOrg	Conference Coordinator	F	2013.08.27
UniversityOrg	Sustainability Engagement Manager	F	2013.07.21
UniversityOrg	Sustainability Programme Manager	M	2014.01.15
UniversityOrg	Programme Facilitator - Laboratories	M	2014.01.15
UniversityOrg	Sustainability Engagement Facilitator (a)	M	2014.01.15
UniversityOrg	Sustainability Engagement Facilitator (b)	F	2014.01.15
UniversityOrg	Sustainability Engagement Facilitator (c)	F	2014.01.15
RailCo	Environmental Manager	F	2013.06.26
RailCo	Ticket Clerk	F	2013.07.29
RailCo	Station Aid	M	2013.07.29
RailCo	Hospitality Supervisor	F	2013.07.29
RailCo	Relief staff	F	2013.07.29
RailCo	Train care staff	M	2013.07.29
RailCo	Station Grade B Platform/ Booking Office	M	2013.07.29
EnergyCo	Engineering Team Manager	M	2014.04.27
EnergyCo	Fault Dispatcher	M	2014.04.27
EnergyCo	Networks Manager (a)	M	2014.04.27
EnergyCo	Networks Manager (b)	M	2014.04.27
EnergyCo	Linesman (a)	M	2014.04.27
EnergyCo	Linesman (b)	M	2014.04.27
EnergyCo	Linesman (c)	M	2014.04.27
EnergyCo	Joiner (a)	M	2014.04.27
EnergyCo	Joiner (b)	M	2014.04.27
EnergyCo	Joiner (c)	M	2014.04.27
EnergyCo	Joiner (d)	M	2014.04.27
EnergyCo	Clerk (a)	F	2014.04.27
EnergyCo	Clerk (b)	M	2014.04.27
EnergyCo	Labourer	M	2014.04.27
EnergyCo	Trainee	M	2014.04.27
		N = 47	

Note: N = total number of respondents (managers and employees) across five case studies (excluding BusCo)

Second, interaction among participants was a key source of information and helped to clarify key issues. As others have observed, 'the comparisons that participants make among each other's experiences and opinions are a valuable source of insight into complex behaviours and motivations' (Morgan, 1997: 15). Finally, the focus group offered a way is to explore an issue where there is little previous research. For example, this researcher was able to explore a range of views and ideas prior to using other techniques (e.g., semi-structured individual interview). As Edmunds (2000) explains, preliminary focus group findings can be useful to help refine the individual interview research schedule by giving a feeling about how people think and talk about the topics discussed.

The weaknesses of the focus groups stems directly from their two defining characteristics: the reliance on the researcher's focus and the group's interaction (Edmunds, 2000; Madriz, 2000; Sussman et al., 1991). The fact that the researcher creates and directs the focus group means that they are in some sense unnatural social settings. For example, the researchers influence on the data makes focus groups inherently "less naturalistic" than participant observation. The second broad source of weakness flows directly from their reliance on the interaction in the group to produce data. For example, concerns may include both 'a tendency towards conformity, in which some participants withhold things that they might say in private, and a tendency toward "polarisation," in which some participants express more extreme views in a group than in private' (Sussman et al., 1991). In other words, for some types of participants and for some topics, the presence of a group will affect the quality of the data.

Similarly, the group's influence on the discussion can also create concern about the ability of some types of participants to discuss a particular topic (Madriz, 2000: 838). For example, problems may arise from topics that participants' level of involvement is either too low or too high (Edmunds, 2000). If the participants have little involvement with the topic, the data collected may be scattered and incomplete, but if the participants are highly involved with the topic they may dominate the discussion. This raises a related set of important problems about confidentiality and anonymity if the topic is highly controversial or if there is potential for disagreement among the participants. For example, Morgan (1997: 17) suggests that 'the simplest test of whether focus groups are appropriate for a research project is to ask how actively and easily the participants would discuss the topic of interest'. Lastly, focus groups are not suitable when the researcher needs to be able to generalise from the research results (Madriz, 2000: 848).

The key questions on environmental management and workplace employee relations posed by this thesis' focus group interviews were developed specifically for this study. The questions were broadly framed around how to improve employee environmental engagement as a purposeful strategy to help gain access into the case study organisations. However, probing questions were also asked to help answer the core research questions of this thesis. The interview schedule for focus groups included: (a) one question about improving employee environmental awareness; (b) one about improving environmental communication; and (c) one about improving employee participation in environmental management. For example, a core aspect of this thesis is investigating the ways in which workers and unions can contribute to the delivery of a sustainable low-carbon workplace. To examine respondents' perceptions of employee participation in environmental sustainability in focus group interviews both managers and employees were asked the question: *'How can this organisation improve employee awareness of environmental sustainability / climate change?'* and, *'How can this organisation improve communication with employees about environmental sustainability targets and responsibilities?'*. Correspondingly, employee voice via upward problem-solving teams provide an opportunity for employee input into developing a sustainable low-carbon strategy. In focus groups both managers and employees were also asked the question, *'How can this organisation improve employee participation in sustainability issues / decision-making?'*

The challenge of using both interviews and focus groups can be summarised as follows: first, designing data collection instruments consistent with the theoretical framework. For the purpose of this thesis, areas of research interest strongly influenced the design of the interview schedules. Therefore, concepts, such as organisational culture, communication, employee involvement and cooperation, relevant to the theoretical framework informed the questions that guided the interview process. Appendix C, Appendix D and Appendix E show the interview schedules, the themes explored, and the main adaptation source of the questions created.

Second, determining the number of participants was a key challenge. In this research, the number of participants was determined by the complexity of the research topic and workplace politics. A purposeful sample of participants therefore included: (a) human resource managers; (b) environmental managers; and (c) knowledgeable employees; and, where the organisational 'gatekeeper' permitted, (d) trade union representatives. Third, securing access into organisations for the purpose of data collection was at times challenging. The aim was to arrange interviews with individuals with the most experience or knowledge of the investigated phenomenon. Access to key stakeholders presents difficulties because there is time commitment required for

participating in the study. The main obstacles encountered, however, were not of a time related nature, but were related to commercial sensitivity and concern that data could find its way into the public domain. However, some organisations agreed to participate in the research mainly because "gatekeepers" spoke to their colleagues on my behalf. For example, with regard to the quantity and quality of focus group data, five of the six cases participated in the focus group interview, but only four out of the five participated in the action research informed group activity. This was due to management constrains on access. Furthermore, interviews with union shop stewards were conducted in five cases with exception of EnergyCo due to lack of union activity and management constraints on access. The issue of access into organisations further highlights the politics of undertaking case study research on management-unions relations. This was illustrated by the fact that CouncilOrg's survey findings were omitted from the data set at the insistence of the management team. Additionally, at BusCo the management team did not grant access for focus group interviews. Other factors that contributed to securing access into organisations were the general topic and purpose of the research, written assurances of anonymity and confidentiality, the reputation of the researchers' academic institution and the promise of a feedback report in return for access for the purpose of data collection (Laryea and Hughes, 2011).

Survey

The survey approach gathered data from of a total 116 (one hundred and sixteen) respondents across the six cases. The survey approach refers to a group of methods that emphasises quantitative analysis (Babbie, 1990; Marsden and Wright, 2010; Marshall and Rossman, 2006 Saunders et al., 2007). The surveys were used to measure participants' perceptions on environmental management activities, and to garner opinion on the role of employment relations in contributing towards environmental management. It is widely used in organisational and HRM research and includes popular techniques such as web-based self-administered questionnaires. The distinguishing characteristics of surveys are the structured form of questions, the form of data and the method of analysis (Marsden and Wright, 2010). The survey approach allows for the collection of large amounts of data from a sizable population in a comparatively economical way. The method generates structured data sets that allow for systematic comparison of results within or between case studies (Babbie, 1990; Marsden and Wright, 2010; Saunders et al., 2007).

A web-based self-administered questionnaire (Whitfield and Strauss, 1998; Bryman and Teevan, 2005; Neuman and Robson, 2009) administered by Qualtrics was used in this thesis because first

the researcher endeavoured to access a large proportion of the employee population in each case study to ensure data integrity and adequate sample size. Second, online questionnaires can be completed relatively quickly, returned considerably easier and faster than mailed questionnaires. According to Bryman and Teevan (2005: 84) 'online questionnaires are completed with fewer unanswered questions than mailed questionnaires' and open questions are more likely to be answered online and to result in more detailed replies. Third, the geographic location of the respondents does not impact the quality of the research data. Fourth, the cost is considerably lower than a paper-based survey method. There is no postage, paper, envelopes and time taken to stuff covering letters and questionnaires into envelopes. Fifth, with a societal trend towards having everything 'online' and digitalised, driven largely by issues of convenience and environmental concern, online questionnaires are considered a more modern and up-to-date research instrument. Finally, respondents' answers can be automatically programmed to download into a database, thus eliminating the time consuming task of coding a large number of questionnaires. In addition to the electronic self-administered questionnaire, a paper-based version was also made available for employees who either did not have access to email while at work or simply preferred the paper-based format.

The biggest challenge with the survey method 'is the capacity to do it badly' (Saunders et al., 2007: 76). The most prominent criteria for the evaluation of quantitative survey research are reliability and validity (Bryman and Teevan, 2005; Marsden and Wright, 2010). Reliability is fundamentally concerned with consistency of measures. The researcher, therefore, is particularly concerned with whether measures devised (e.g., level of environmental awareness among employees) are consistent or not. Validity refers to whether a research instrument really measures the concepts under investigation (Silverman, 2001). For this thesis, the online-questionnaire answer-choices could lead to unreliable data sets because at times they are relative to a personal abstract notion concerning 'strength of choice'. For example, the choice 'moderately disagree' may mean different things to different respondents. In addition, even 'yes or no' answers are problematic because respondents may for instance put 'no' if the choice 'sometimes' is not available. Further, validity concerns related to issues of measurement can undermine the accuracy of claims related to correlations between variables. Given that there is a reasonable limit to the number of questions which any questionnaire may contain, data collected from survey methods may not be as wide ranging as those collected by qualitative survey methods.

Another major weakness of the survey method is the relative level of 'inflexibility' (poorer discoverability) to new discoveries. For example, once a questionnaire has been distributed there is little the researcher can do upon discovering that a question is ambiguous or is being misunderstood by respondents, or upon realising that an important item was omitted (Marsden and Wright, 2010; Marshall and Rossman, 2006). Furthermore, while the survey method may provide a 'snap-shot' of the phenomenon at a certain point in time, the stripping of context (e.g., through the use of a closed survey instrument) may buy 'objectivity', but 'at the cost of a deeper understanding of what actually is occurring' (Gable, 1994: 114).

The survey method, therefore, may provide little information on the underlying meaning of the data collected, and, in some cases (e.g., cross-sectional studies), certain variables of interest to the researcher may not be measurable by this method. For these reasons, it is important to acknowledge the limitation of using quantitative research methods to interpret complex social phenomenon. In an attempt to address these concerns it is important to highlight that questions were based on concepts already validated in the literature. For example, the key questions on environmental management and workplace employee relations posed by this thesis' questionnaires are an adaptation of questions that had already been validated in questionnaires used in previous studies. Four self-administered questionnaires were designed to elicit information from four groups: HR managers, environmental managers, general managers and employees.

First, the single-respondent HR questionnaire included: (a) three questions about the characteristics of the organisation; (b) 12 questions about the workplace employee relations and environmental sustainability, three about employment relations climate, one about the integration of human resource management and environmental management, four about employee participation in environmental management, three about the facilitators and barriers to environmental management, and one about organisational culture; and (c) two open-ended questions about human resources and environmental management. For example, in each of the six case studies, HR managers were asked to indicate the propensity of green HR practices that support environmental sustainability, beginning with the question: *'Has this organisation implemented or does this organisation plan to implement any of the following "Green" human resource management (GHRM) processes and practices?'* HR managers were asked to indicate on a five-category response scale ranging from 'no plans to implement' to a 'comprehensive scheme'. It is important to recognise

that respondents might interpret the concept of 'green' HR practices quite differently depending on 'managerial intentions and contextual factors' (Marchington and Kynighou, 2012: 3338).

Second, the single-respondent environmental management questionnaire, included: (a) 17 questions about the characteristics of the environmental management strategy, two about the budget, one about staff, two about policy, two about audit, one about environmental management systems, one about carbon management, four about sustainability initiatives, one about energy reduction, one about water, waste and recycling, one about transportation, and one about adapting to climate change and extreme weather, (b) three about the facilitators and barriers to environmental management, and (c) 14 open-ended questions about environmental management strategy. For example, to examine the perceptions of environmental managers on the drivers of sustainability initiatives, this thesis builds on Walker et al.'s (2008) study and asked twenty-two questions of managers. Beginning with a general question: *'What, if any, are the most important drivers or business objective for this organisation implementing these initiatives?'* Answers were invited on a five-point Likert scale from 'not at all' to 'very important'. To examine the issue of anticipated benefits of environmental management this thesis draws from Zutshi and Sohal (2004) and Hillary's (2004) research. In each of the six case studies environmental managers were asked to assess the benefits of implementing pro-environmental practices. Beginning with a general question, '*What are the benefits to this organisation in addressing sustainability*?' Environmental managers were asked to indicate on a five-category response scale ranging from 'not at all significant' to 'very significant'.

Third, the multiple-respondent management questionnaire, included: (a) 12 questions about the characteristics of the respondent and organisation; (b) 18 questions about workplace employee relations and environmental sustainability, three about employment relations climate, three questions about environmental awareness and training, five about employee participation in environmental management, three about the facilitators and barriers to environmental management, and one about organisational culture, and (c) two open-ended questions about human resources and environmental management. For example, quantitative data were collected on managers' perceptions of facilitators for supporting workplace pro-environmental behaviour. To examine managers' perceptions this thesis builds on Zibarras and Ballinger's (2011) study. Managers were asked seventeen questions, beginning with the question, '*How important are each of the specified facilitators for effective environmental management in this organisation?'* Answers were invited on a five-point Likert scale from 'strongly agree' to 'strongly disagree'. In each of the six case

studies, managers were asked to assess the most important barriers to creating an environmentally sustainable workplace. To examine the perceptions of managers on barriers of pro-environmental practices managers were asked fifteen questions beginning with a general question, *'How significant are each of the specified barriers for effective pro-environmental practices in this organisation?'* Answers were invited on a five-point Likert scale from 'not at significant' to 'very significant'. To examine the perceptions of managers this thesis builds on Gabzdylova et al.'s (2009) research on sustainability stakeholders. Beginning with a general question, *'To pursue environmental management strategies should this organisation increase its collaboration with any of the following?'* Managers were asked to indicate on a five-category response scale ranging from 'strongly disagree' to 'strongly agree', on whether their organisation should increase its collaboration with stakeholders.

In terms of analysis, the mean was chosen as the best choice for summarising the central tendency of a Likert item (Cherryholmes, 1992). Within the context of this thesis, consumers of research often want to answer the following questions: Which statements have less or more agreement relative to others? Which groups agreed less or more with a given statement? For these purposes, the mean has several benefits. First, the mean is pragmatically easy to calculate: it is easy to see the relationship between the raw data; it can easily be embedded into reporting systems; and it also facilitates comparability across case study organisations. Second, the mean is relatively well understood and intuitive. For example, the mean is often used to report central tendency of Likert items. Therefore, consumers of research are more likely to understand the mean. Some researchers prefer the more statistically correct option of reporting the mode, the most frequent responses, or the median (Boone and Boone, 2012). However, for the above reasons, the mean was used to measure the central tendency of Likert scale data.

Forth, the multiple-respondent employee questionnaire, included: (a) 12 questions about the characteristics of the respondent and organisation; (b) 23 questions about workplace employee relations and environmental sustainability, seven about employment relations climate, six questions about environmental awareness and training, nine about employee participation in environmental management, and one about organisational climate, and (c) two open-ended questions about human resources and environmental management. For example, to examine the employees' perceptions of managers' environmental leadership this thesis builds on Danford et al.'s (2008: 165-166) six-item validated scale for 'fair treatment of employees'. The study is also informed by the WERS98/04 surveys, and asked six questions of employees with four-category

response scales ranging from 'very poor' to 'very good'. This provided an opportunity to explore perceptions of managers' environmental leadership from the perspective of employees within the same workplace. Beginning with the question, *'How good would you say managers at this organisation are at demonstrating leadership in environmental management?'* It is important to note that employee surveys were distributed at three of the six cases.

Focusing on the experiences of employees, this thesis draws from Richardson et al.'s (2010) research and examined how much direct and indirect influence employees exerted over workplace-level environmental management decisions and, importantly, how much direct and indirect influence they felt they should have. To explore employees' perceived experiences, the survey questionnaire asked four questions: First, *'How much direct influence do you feel you have over environmental management issues at this organisation?'* The second question asked: *'How much direct influence do you feel you should have over environmental management issues?'* Respondents were then asked to rank both their overall direct influence (actual) and whether they would welcome more direct influence (aspirations). Answers were invited on a four-point scale ranging from 'none' (coded 1) to 'a little' (2), 'some' (3) and 'a lot' (4). Summative scales were then computed to generate mean scores for Direct Influence (Actual) and Direct Influence (Aspirations). Replicating this approach with indirect influence, respondents were asked: *'How much indirect influence, that is, through union representatives, do you feel you have over environmental management issues?'* and *'How much indirect influence do you feel you should have over environmental management issues?'*

The theories of mutuality associated with 'partnership working' suggest that 'cooperative bargaining relationships' constitute the most effective (and for some, the only remaining) means of securing mutual gains for employees during management attempts to improve organisational performance (Danford et al., 2008: 164). This thesis draws again on Danford et al.'s (2008) research to examine the perceptions of employees on union representation and influence on workplace sustainability, and is informed by the WERS98/04 surveys. The survey questionnaire explored employees' perceptions of union representation and influence on environmental sustainability matters within their workplace. Employees were asked to respond to the statements: *'Unions here take notice of members' problems and complaints'* and *'Unions here are good at communicating with members'.* They were also asked to respond to what extent: *'Unions here have a lot of influence over health and safety issues'* and *'Unions here have a lot of influence over environmental management issues.'* Answers were invited on a five-point Likert scale ranging from 'strongly disagree' to

'strongly agree'. Again, it is important to note that employee surveys were distributed at three of the six cases.

Concerning both the single-respondent management questionnaires and multiple-respondent employee and management questionnaires and, to identify the perceptions of both management-employee and management-union relations, described by some as a measure of 'employee relations climate' (Wood and de Meneze, 1998: 503), this thesis builds on WERS' (2004) methodology and asked two questions of both managers and employees: First, '*How would you rate the relationship between management and employees generally at this workplace?*' Second, "*How would you rate the relationship between management and trade unions generally at this workplace?*' Answers were invited on a five-point Likert scale ranging from 'very poor' to 'very good'. This question is intended to measure what Dastmalchian et al. (1989: 23) describe as 'a characteristic atmosphere in the organisation … as perceived by organisational members'

Research documents that sustainability leadership is often dispersed across the organisation rather than being possessed by a single senior manager (Kennedy, Whiteman and Williams, 2015). Managers and employees were asked, '*How would you describe your level of interest in environmental management issues at this organisation?*' Respondents were asked to indicate on a five-category response scale ranging from 'not at all interested' to 'extremely interested,' their interest in environmental management issues (Table 6.4). They were also asked, '*How would you describe your level of awareness about environmental management issues at this organisation?*' Respondents were asked to indicate on a five-category response scale ranging from 'not at all aware' to 'extremely aware', on their awareness of environmental management issues. The survey questionnaire provided an opportunity to explore the levels of environmental awareness of all respondents within the same workplace.

To examine the perceptions of respondents on pro-environmental organisational climate this thesis builds on Zibarras and Ballinger's (2011) research and the TUC's 2012 Green Workplaces Survey. Managers and employees were asked seventeen questions each with five-category response scales ranging from 'strongly disagree' to 'strongly agree'. Beginning with a general question, '*Do you agree or disagree with the following "green" organisational climate statements?*' Employee voice via upward problem-solving teams provide an opportunity for employee input into developing a sustainable low-carbon strategy. To identify respondents' perceptions of involvement in environmental sustainability decision-making, this thesis investigated the extent

to which managers solicited employees' views and whether, in turn, employees' considered that managers took their views into account when making decisions (Dromey, 2014: 10). Managers and employees were asked, *'Overall, how satisfied are you with the amount of involvement you have in environmental management decision-making at this organisation?* Answers were invited on a five-point Likert scale ranging from 'very dissatisfied' to 'very satisfied'.

Existing studies of employee participation do not necessarily reflect workplace reality because they draw on predominantly HR respondents' to assess both the extensiveness and effectiveness of employee voice. In effect, they measure 'intended practices' rather than 'actual practices' (Marchington, 2008: 239). To address this problem, in each of the six case studies HR managers, line managers and employees were asked to rate their employer's commitment to employee participation in workplace environmental sustainability. This thesis asked two questions of managers and employees: *'How has this organisation's commitment to employee participation in environmental management changed in the past 5 years?'* Respondents were invited to answer using a five-category Likert scale ranging from 'significantly decreased' to 'significantly increased'. The second question asked, *'How do you expect this organisation's commitment to employee participation in environmental management to change in the next 5 years?'* Again, answers were invited on a five-category Likert scale ranging from 'will decrease significantly' to 'will increase significantly'. The questions explored perceptions of organisation's commitment to employee participation in environmental sustainability from the perspective of all respondents within the same workplace.

Piloting Phase

The questionnaires and interview schedules were pre-tested in early 2013 in order to test for ambiguity, relevance and terminology. Forza (2002) contends that the pre-test should be applied to multiple groups: (a) specialists to verify the instrument's adequacy; (b) an easily accessible group, for example, graduate student colleagues; and (c) a small group of respondents who have actual experience of the phenomenon being studied. Following this advice, the questionnaires and interview questions were pre-tested by a cross-section of people in the public, private, and voluntary sectors. In total, forty-three (43) interviewees were pre-tested: (a) four academic experts in the field of organisational studies; (b) one director of human resources at a city council; (c) one environmental manager at a large university; (d) one communications manager from an international waste and water treatment company; (e) one chairperson of a large environmental advocacy group; (f) three trade union representatives; and (g) 33 university students.

The first six groups were consulted mainly to provide feedback on the content of the questionnaires and interview schedules. The secondary purpose of this phase of the thesis project was to identify the range and types of initiatives being implemented by employers to achieve behavioural change in reducing carbon consumption and emissions. The feedback from specialists and knowledgeable respondents was generally received through one-to-one face-to-face meetings. In cases where feedback was provided by email, pre-arranged follow-up telephone meetings were conducted. The university students were asked to respond to the employee questionnaire. Adopting a two-phase pilot strategy, the employee questionnaire was piloted between April and May 2013. In the first phase, a total of 17 students signed consent forms and were asked to complete a paper copy of the questionnaire, record how long it took, and then participate in a short follow-up interview about the overall content and flow of the questionnaire. In the second phase, a total of 16 students signed consent forms and completed the same process. The two-phases provided time to receive feedback from academic and industry experts and incorporate suggested changes for the second phase of piloting. In total, 33 employee questionnaires were completed, 16 suggestions for improvement, and recommendations from the specialists concerning the content of the questionnaires and interview questions.

The pilot testing resulted in improvement in the clarity of questions. In terms of critical reflection, the feedback was most beneficial because it helped with clarifying key terms and concepts. For example, for the HR questionnaire it was suggested that the term "sustainable human resource management" should be changed to "green human resource management" to better reflect the aims and purpose of the study. Further, a number of interviewees highlighted the importance of using easier to understand terminology. For example, in the employee questionnaire the term "environmental sustainability" was replaced with the term "environmentally friendly" in an attempt to make the research more accessible to a broader audience. Additional concerns were raised about the need to triangulate concepts between the questionnaires. For example, the question on organisational culture was included in all four questionnaires, and the question on employment relations climate was included in three out the four questionnaires excluding the environmental management questionnaire.

Regarding the range and impact of sustainability initiatives, based on the information gathered in the piloting phase, supplemented by a comprehensive literature review including analysis of awards schemes which recognise environmental performance, five core areas of sustainable

practices were identified: energy, waste reduction/recycling, transport, biodiversity and food. Consistent with Cox et al.'s (2012) research, case studies were sought which best illustrated impact on employees in terms of the range of sustainability initiatives which were promoted, use of multiple employee relations practices to change employee behaviour and evidence of impact on carbon emissions. This piloting process was developed over 60 days. The final versions of the interview schedules including, main concepts and ideas explored can be found in Appendix C, Appendix D and Appendix E.

Data Collection and Analysis

Data collection began as soon as each organisation agreed to participate in this thesis. The majority of data collection occurred between May 2013 and June 2014. During this time, data were collected through surveys, interviews, focus groups, observations, documents, and site visits. Site visits included: six head office buildings, one hospital research facility, one conference centre, six train stations, and both a commercial mixed-waste-and-recycling facility and anaerobic digestion power generating facility. Each of these visits represented an opportunity to make observations. In the majority of cases, information was first collected from the environmental management and HR management areas. This was followed up with interviews with managers and employees responsible for other areas of the organisation.

The focus groups included environmental managers and employee environmental 'champions' or, alternatively, managers and other employees in environmental management related job roles. The participatory component of the focus group interview was informed by techniques drawn from action research (Neilson, 2006). Action research is a scientific research method that draws the connection between theory and practice, between understanding and change, and an active cooperation between researchers and the participants in the production of new knowledge. Action research is based on the *joint learning* between the participants and the researcher during the entire research process (Svensson and Nielsen, 2006). Knowledgeable participants in the study have an important role from the definitions of the problems to the analysis and the dissemination of the results (Bradbury and Reason, 2001). The aim therefore is 'to carry out research together with – not *on* – the participants' (Svensson and Nielsen, 2006: 4). As such, the action research approach is characterised as relationships among equals with potentially a high degree of participation and practical relevance. The participants were asked to identify, to reflect upon and then, collectively and by ranking, to suggest practical workplace environmental interventions. The participatory component of the focus group interview including, the

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description of the process followed can be found in Appendix F. The semi-structured interviews conducted included representatives of HR management, corporate sustainability, environmental managers and line managers in other areas of the organisation.

A total of *eighty-seven* (87) participants were interviewed through face-to-face or focus group interviews across the six organisations, ranging from 15 to 120 minutes in length, with over 48 hours conducted (details of interviewees listed in Appendix B). All interviews were taped and transcribed (over 600 pages of transcript). Secondary data were collected such as annual environmental and financial reports, environmental policies, and internal newsletters. The transcripts were coded using themes identified in the literature and from actual terms used by participants (Easterby-Smith, Thorpe and Jackson, 2012). Statements that best explained a particular situation were selected to illustrate key points. Matrices were developed to summarise the findings, to enable comparison across the data and shed light on possible patterns that could emerge from the findings (Cresswell, 2013). The analysis was conducted iteratively through the course of data collection. Findings were triangulated across data sources and feedback was sought from participants. Both limitations and contextual factors shape the way in which the findings can be interpreted. For this reason, this chapter concludes with an evaluation of the limitations and constraints of this thesis.

3.4   Limitations and Concluding Comments

This thesis has several limitations and any conclusions drawn from the study must be interpreted within the boundaries of the research methodology and the context and circumstances in which the study was conducted. The limitations broadly fall into four categories in no particular order: validity of responses, research tools, the number of employee participants, and missing data.

First, this researcher is aware that for many of the sampled organisations the reputational aspect of the sustainability initiatives was important. It is inevitably very difficult to validate the honest reasons and dynamics within the initiatives and separate motivation from reality. This thesis attempted to unpack the actual drivers for engaging in sustainability initiatives by methodological triangulation and guaranteeing confidentiality of data. More specifically, as discussed in the findings chapters, at RailCo and UniversityOrg environmental practitioners represented the majority of manager respondents. Therefore, for self-serving reasons, it is plausible to expect that managers responsible for sustainability would report more favorably on their activities. Moreover, the same can be said about the validity of the data collected from both of the single-respondent HR and environmental management surveys used in each of the six case studies.

Second, there are limitations associated with the research tools and analysis techniques used. Informed by pragmatism (Onwuegbuzie and Leech, 2005), this thesis did not adopt the positivist impulse to prove causation. The analysis of the quantitative data only compared means and percentages, and therefore cannot make any claims regarding causality. This would be viewed as problematic in the positivist research approach. However, as explained earlier in this chapter, this thesis is located in a different epistemological school, where explanation of workplace reality places less focus on narrow cause and effect models.

Third, ideally more employees and non-union and union champions could have been included in the study. Although conducting face-to-face interviews with 34 employees and five shop stewards across the six case studies, the data would have been more representative and richer with the inclusion of additional employees and union and non-union environmental champions; this was, however, difficult due to limitations in terms of gaining and maintaining management consent, identifying knowledgeable and interested employees, and the intensive nature of the research – specifically the amount of information required from each case study.

Fourth, some survey responses had to be omitted from the analysis. As a result of the research design – the personal distribution of the HR and Environmental surveys by the researcher – there was one hundred per cent (100 per cent) response rate and 87 omitted responses to specific questions[5]. As with the management and employee surveys: both surveys reported several hundred omitted responses to specific questions; in the management survey the quantitative data on union-management relations at CouncilOrg were omitted due to management constraints on access; in the employee survey specific questions on environmental communication at EnergyCo were omitted to reduce survey completion time; and employee survey data were only collected in half (50 per cent) of the six cases due to management blocking access.

Finally, the quantity and quality of the qualitative data varied across the case studies. With regard to the focus group data, five of the six cases participated in the focus group interview, but only four out of the five participated in the action research informed group activity. Lack of participation was due to management control over access to knowledgeable employees. Thus, there was considerable variation in both the quantity and quality of the focus group data. Interviews with union shop stewards were conducted in five cases with exception of EnergyCo,

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[5] Total 87 omitted responses to specific questions = 42 HR and 45 environmental management survey

which again was due to management constraints on access but also it was due to the lack of union activity on issues of environmental sustainable. As observed, these issues draw attention to the politics of undertaking case study research particularly on sensitive management-unions relations, illustrated by the fact that CouncilOrg refused permission to incorporate survey data into the findings and management at BusCo did not grant permission for focus group interviews.

The aim of this chapter is to outline the research philosophy, the research strategy and the research methods to be used to answer the primary research question. The purpose of the last two chapter chapters was to establish the workplace as an important site for implementing environmental sustainability improvements. Importantly, it has explained that there is an absence of workplace research that focuses on the role of employee relations in contributing to environmental sustainability. This chapter has discussed the strengths and limitations of various research methods. The basic premise outlined is that a mixed methods approach, using a variety of both qualitative and quantitative techniques, is more likely to unmask the contextual situation of each case, and how the dynamics of employee relations contributes to creating a sustainable low-carbon workplace. The following four chapters discuss the research findings beginning with descriptive information about the cases and outlining the environmental activities and employee relations scenarios in each of the case study organisations.

Chapter 4

Sustainability Initiatives in Case Study Organisations: An Overview

This chapter focuses on understanding how sustainability initiatives operate in a workplace context, and through selective case studies aims to illustrate a range of different environmental activities. Its primary purpose is to examine the range and impact of sustainability initiatives that have been implemented in six case study organisations. This chapter first outlines the main sustainability practices in each of the case study organisations. In doing so, it provides an overview of the different types of sustainability activities across the cases. It is important to note that this summary of initiatives does not encompass all of the practices that the selected organisations were using, rather it serves to illustrate what others have identified as the 'key' individual, group and material factors that affect the degree to which planned change create low-carbon workplaces (Cox et al., 2012). Finally, it examines the impact of the sustainability initiatives on environmental performance. The data presented in the following four findings chapters are based on structured interviews, surveys, focus groups, site visits and document analysis from six public and private sector organisations: local government, healthcare, higher education, transport, and energy.

4.1 Types of Sustainability Initiatives

There are five core areas of sustainable practices covered by this thesis: energy, waste reduction/recycling, transport, biodiversity and food. In terms of the practices examined, there is much evidence of initiatives to reduce energy use and improve recycling and far less evidence of projects to change transport methods, biodiversity and food consumption. The most common practices to reduce energy consumption include providing information on consumption levels to improve employee awareness, using incentives to encourage behaviour change and appointing environmental 'champions' and 'green teams' to encourage and persuade other employees to change. Waste reduction and recycling measures often include the removal of individual waste bins, reducing the use of plastic bottles, disposable cutlery and tableware and using recycled instead of virgin paper.

To reduce carbon emissions from travel and transport, organisations introduced incentives aimed at changing employee behaviour such as subsidised bike purchase schemes, support to help employees work from home, and restricting car-parking space. The most frequent initiatives used to enhance biodiversity were encouraging employee participation in existing environmental community projects. Interventions to encourage food sustainability included providing more vegetarian and locally sourced food, substituting bottled water for tap water. The least common was providing advice to employees on smarter food shopping.

Six organisation were investigated in the study. The chosen cases are greater or lesser users of energy, and have different types of business operations, levels of carbon emissions (e.g., energy, fuel), and different demands from their employees, for example, travel to work. Below are brief vignettes of the cases and their sustainability initiatives projects. This provides an overview of the different types of sustainability activities across the organisations.

4.2 Overview of Sustainability Initiatives in Case Study Organisations

CouncilOrg: Sustainability Initiatives

Carbon management is a stated objective of the council's sustainability strategy. In 2010, CouncilOrg launched an ambitious partnership for sustainability initiative. The partnership included CouncilOrg, a higher education institution and the business sector, with the aim of making the city one of the most sustainable cities in Europe by 2020. This partnership initiative

outlines a strategic approach to reducing carbon emissions while also providing an opportunity to promote economic growth and tackle chronic social and health inequality issues. The initiative proposes a range of sustainable and low-carbon projects including, energy management and policy, low carbon heating and district heating, and sustainable transportation.

At the heart of this strategy is to develop the city as the leader in smart grids in the UK. In general terms, this involves the use of electronic meters in workplaces and households that facilitate two-way flow of information linked to data management centres. The goal is to improve the overall efficiency of the power-grid to ensure that energy suppliers are better able to meet the future demand of customers. However, the aims of the project go beyond simply achieving carbon emissions reductions and improving energy efficiency. The stated objective of the strategy is to create 'green' jobs and support the development of a clean energy sector, which aims to tackle fuel poverty, improve air quality and transportation links and create new revenue streams for public services and communities.

At an organisational level, CouncilOrg agreed in 2009 to an office rationalisation plan. The plan aimed to reduce city centre premises by a third, from nine to six, resulting in a reported 65 per cent reduction in floor space. This joint-venture initiative led by CouncilOrg and Serco involved significant change for 3,700 staff including the implementation of flexible working and digital records management systems. The projected outcome of these cost-efficiency initiatives is reported to be an estimated annual property savings of approximately £5 million and overall 16 per cent reduction in the council's annual carbon reduction target.

At a workplace level, CouncilOrg has implemented a number of initiatives to reduce energy consumption across its properties. For example, the Carbon Management Programme (CMP) aims to reduce the council's carbon footprint and improve energy efficiency. This CMP is the council's primary in-house carbon reduction initiative, led by the Carbon Management Team within the Department of Land and Sustainability. The CMP supports actions to raise workers' awareness of climate change and energy efficiency, and to embed pro-environmental practices and behaviours within day-to-day operational activities across the council. To further support carbon reduction initiatives, in 2013 CouncilOrg became the first local authority in the UK to sign up to the charity-led Green Champions scheme. The scheme aims to both decarbonise the council's operations and reduce youth unemployment by employing twenty 'Green Wardens' to work alongside members of the Carbon Management Team. In the area of sustainable food,

CouncilOrg launched the Food Miles Education Pack and works with local primary schools to help raise general awareness about growing food and purchasing local produce to help reduce transportation carbon emissions.

HealthOrg: Sustainability Initiatives

HealthOrg's sustainability initiatives are reportedly driven by both business benefits and ethical principles. There is evidence of the business case for having an advanced sustainability programme in the conference and event planning industry. First, lower carbon consumption reduces operating costs. Second, public sector clients, and corporate clients are increasingly using sustainability criteria in making decisions when purchasing event packages. For example, the Scottish Government has made particular efforts to promote sustainability with the publication of the 'Scottish Sustainable Procurement Action Plan' (Scottish Government, 2009), and because public sector clients are the primary patrons of the Centre, the management team felt that it was in a position to align their services with Scottish Government's value statements.

To meet the sustainability needs of their clients the HealthOrg Centre's management developed the 'Think Greener' sustainable conference and meeting package. The package offers products and services that incorporate social and environment considerations, such as providing recycled paper, organic buffet lunch, fairtrade tea and coffee and carbon neutral taxi service. The Centre's 'sustainability committee' or green group, a cross-functional employee committee chaired by the head of the Centre, coordinates sustainability activities and initiatives. For example, the Centre's sustainability initiatives include: improving indoor air quality by purchasing plants chosen to absorb chemicals and remove air pollutants; reducing energy, paper, and water through staff awareness campaigns; by installing new technology; encouraging employees and visitors to use public transportation; improving biodiversity by installing an on-site herb garden and bird feeders; and by fostering community links by working with local universities to provide work placements to students and also participating in community projects such as the Adopt-a-Beach project. Employees involved in the green group have visited most of their major business partners and, importantly, the Centre actively encourages suppliers to become environmentally friendly by promoting the Scottish Business in the Community Envirowheel, which is an online tool for employers seeking to improve sustainability.

UniversityOrg: Sustainability Initiatives

The approach to embedding sustainability in the culture of the university is comprehensive. The university's sustainability strategy aims to develop a 'whole-institution approach' to social responsibility and sustainability. This approach includes four areas: (1) leading by example by explicitly embedding social responsibility and sustainability principles within the university's policies, strategies and procedure; (2) supporting best practices, innovation and leadership with regard to social responsibility and sustainability in learning and teaching, research and knowledge exchange and across services and infrastructure; (3) recognising and communicating relevant activity by students, staff and alumni; and (4) demonstrating, evaluating and reporting key social, environmental and economic impacts. The university's Strategic Plan for 2012-16 includes the strategic theme of social responsibility. The plan's stated aim is to achieve a 29 per cent carbon reduction by 2020, against a 2007 baseline. The key performance indicator for this is carbon emissions per £million turnover, reporting a 7 per cent reduction in 2012-13.

In the area of employee and student learning and development, UniversityOrg's stated goal is to create a learning culture where employees and learners develop their knowledge, skills and experience to engage with, and contribute to tackling global climate challenges in Scotland and worldwide. For example, they seek to offer every student the opportunity to study the broader aspects of social responsibility and sustainability and to explore in depth how their chosen subjects relate to them. The university aims to provide a range of opportunities for students to engage in community sustainability-related activities. This student-centred approach includes support for teaching staff interested in social responsibility and sustainability as a resource for learning, pedagogy and research.

UniversityOrg reports it has made significant investments in infrastructure while encouraging staff and students to embed social responsibility and sustainability in the organisation's culture. For example, the university has recently installed its fourth combined heat and power (CHP) plants, conducted a university-wide travel survey in 2013 highlighting that 88 per cent of staff and students use low carbon emitting transportation by choosing to travel on foot, by bike or by public transport to work. It recently became the first university in Europe, and second globally, to become a signatory of the United Nations' Principles for Responsible Investment. Thus, arguably, demonstrating the university's commitment to honour environmental, social and corporate governance through its investment decisions.

Employee and student engagement is considered by managers to be a critical mechanism for changing employee attitudes and behavior. The process serves to raise the awareness and the profile of sustainability initiatives sufficiently high so that both employees and students adopt environmentally friendly behaviour. For example, the university-wide Sustainability Awards scheme provides a 'toolkit' to encourage departments, laboratories and student societies or groups to tackle a number of carbon reduction and sustainability-related issues. This high-profile awards scheme provides an opportunity for staff and students to earn recognition for their social responsibility and sustainability-related activities. At a school or departmental level, the department also provides energy efficiency advice and support through a comprehensive Engagement Programme that works in consultation with stakeholders to help identify possible areas for infrastructure improvement and to promote energy awareness and behaviour change with the aim of contributing towards the university's carbon reduction targets. The department's Engagement Programme consists of a whole building walkabout, out of hours survey, building briefings and face-to-face facilitated workshop, building user survey and post occupancy evaluation. Employees of the department participate on a number of university-wide committees to ensure that social responsibility and sustainability is raised, supported and monitored.

BusCo: Sustainability Initiatives

BusCo acknowledges that their business activities have a direct impact on the environment and are committed to further developing pro-environmental behaviours. BusCo's sustainability strategy primarily focuses on working with funding partners to invest in new technology to minimise vehicle emissions. For example, with four rounds of financial assistance from the Scottish Government Green Bus Fund, the company reports plans to operate 65 diesel-electric hybrid buses by 2015. Concomitantly, with funding assistance from the Scottish Government and City of Edinburgh Council, the company plans to invest in exhaust systems in older buses in order to meet current emissions standards. Along with investment in new buses and exhaust systems upgrades, new eco-branding was introduced by repainting hybrid buses green. The objective is to draw attention to the new buses to promote the company's environmentally friendly image and encourage increased ridership.

Bus drivers play a critical role in reducing carbon emission. All drivers therefore receive annual training as part of their certificate of professional competence, which also includes eco-driving techniques. At depots, engineering and mechanical workers are encouraged to minimise waste and increase recycling with a reported 95 per cent of waste recycled. This policy has saved 600 to 650 tonnes of waste from going to landfill annually. To encourage sustainable travel among

employees BusCo participates in a tax rebated cycle-to-work scheme, and to encourage participation the central depot have installed shower facilities onsite for cyclists' use. To improve employee awareness of environmental issues the company planned to launch an employee Intranet with a dedicated 'environment' area. In addition, in an effort to reduce paper consumption, BusCo planned to implement employee-scheduling computer software to replace the current paper system. Further, at the time of the interview, BusCo planned to improve customer service and increase ridership by launching the official BusCo App, which uses real-time information on timetables and allows customers to pay the bus fare electronically.

RailCo: Sustainability Initiatives

RailCo's core business strategy is to increase passenger numbers and encourage the move towards the use of bus and rail transport. Acknowledging the environmental impacts of their business activities they have made a strategic commitment to achieving continual improvement in environmental performance. RailCo's environmental management activities are a key element of their overall corporate social responsibility strategy, officially launched in 2013. Their environmental management activities focus on monitoring and trying to reducing carbon emissions, improving the fuel efficiency of vehicles, improving energy efficiency and reducing water consumption at stations and depots, reducing waste by recycling and conserving or enhancing the biodiversity of stations. The company is certified to ISO 14001 (International Standard for Environmental Management) and ISO 5001 (International Standard for Energy Management) and externally audited at six-monthly intervals. RailCo's dedicated environmental management team is primarily responsible and accountable for monitoring environmental performance across all stations and depots, carrying out regular audits to check compliance with the ISO standards and exploring opportunities for improvement.

RailCo claims to have reduced its carbon footprint by about 10 per cent between 2011/12 and 2012/13. RailCo's largest portion of emissions is from electric and diesel trains and buildings. To reduce emission from trains the company has recently invested in coasting boards, driver assistance technology, and extensive 'eco-driving' training for train drivers. To reduce emissions from buildings they have installed LED lighting, solar panels and wind turbines at a number of stations, and have recently installed a combined heat and power system at a large depot. To comply with new waste regulations, with help from Zero Waste Scotland, RailCo installed customer-recycling bins at 19 stations in May 2013 and extended recycling facilities across the network in April 2014. As part of their ongoing activities, the environmental management team

works closely with other staff in a cross-functional 'green team' of volunteer Environmental Champions, meeting regularly to share experiences and best practices across the network. To enhance biodiversity, RailCo has set up a biodiversity fund so that employees can apply for funding to develop unused areas of stations. For example, workers from some stations have formed a gardening club and have been successful in turning previously unused land into a biodiversity garden accessible to employees.

EnergyCo: Sustainability Initiatives

EnergyCo's sustainability strategy is based upon renewable energy generation and driving energy efficiency across its multiple sites. EnergyCo's sustainability initiatives are all intended to support the company's core value of sustainability. Activities are embedded within the company's ongoing communication systems and through both staff and community projects or initiatives. For example, training workshops and management communication channels that have been used to entrench sustainability values including induction training, electronic briefs and newsletters. EnergyCo's Intranet has a dedicated 'Sustainability' area and through a staff energy saving campaign, 'War on Watts', and more recently 'Ecoinomy' promotes a scheme that rewards employees who demonstrate low-carbon behaviours. Community engagement activities include the company-wide volunteering programme, which supports all 20,000 employees to an 'Away Day' from the site to participate in community-led projects or to deliver educational packages with a focus on electrical safety and sustainability. More recently, the 'Sustainable Development Fund' provides funding to regional economic development projects. In the UK, since 2002 EnergyCo has supported over 1,000 charitable and community initiatives with grants totaling over £13 million.

In the area of sustainable transport, EnergyCo in 2009 adopted a policy that attempted to change both travel at work and employee commuting behaviours. To reduce carbon emissions arising from employee travel, a target was introduced that stated that for every four flights an employee took they had to take one rail journey. The policy was implemented through an internally run travel booking service, EnergyCo's Travel. In addition, the company introduced two no-fly months every year, in August and December, when all but essential flights are prohibited. EnergyCo operates many different initiatives under the 'employee commuting' banner including: lift sharing, private and public bus schemes, cycle to work schemes, public transport season tickets, walking groups, the Big Green Commuter Challenge and a Sustainable Travel Summit. EnergyCo has also introduced a policy of restricting car parking on some of its sites. For

example, at the head-office site there are over 2,000 employees but only 857 car parking spaces. The company permits staff to park their car on only four out of five days a week, effectively reducing the number of cars being parked by 300 each day.

To reduce energy use, EnergyCo aims to lower carbon emissions resulting from energy consumption at its buildings alongside an ongoing investment plan to improve energy efficiency through investment in infrastructure. EnergyCo provides sustainability training for key staff, such as facilities managers, who have control over building energy consumption, and encourages change in employee behaviour through a variety of methods including the provision of energy data, league tables comparing consumption across sites, and financial incentives linked to energy saving through the staff energy efficiency campaign 'War on Watts'.

4.3   Summary of Sustainability Initiatives

Of the five areas of sustainability activity covered by this thesis (e.g., energy, waste reduction/recycling, transport, biodiversity, and food) most activity was focused on the first three. The majority of case study organisations have implemented initiatives in three or more of these areas. There was less evidence of initiatives related to biodiversity and food, with only three organisations taking action in these areas. The focus on energy efficiency, waste and recycling, and the lack of activity in the areas of biodiversity and food is consistenet with the preliminary scoping interviews undertaken as part of this thesis.

Within the *energy initiatives*, by far the most popular approach was to encourage employees to reduce energy consumption by switching off lights, computers and other electrical devices. Approaches to this varied, but often involved providing information and reminders, attempts to embed a behavioural a 'norm' of switching off equipment along with steps to make it easier, for example having easily accessible and clearly marked power switches. In addition to encourage behavioural change, installing infrastructure such as motion sensors and low energy lighting was fairly common among the case studies investigated. Several cases introduced energy walkabouts and energy audits to make employees aware of energy efficiency and consumption issues (e.g., RailCo, HealthOrg, UniOrg).

Recycling and waste initiatives were dominated by schemes aimed at increasing the provision of recycling facilities and raising awareness of those facilities. The intent of these initiatives was the need to avoid waste, which seeks to improve employees' feelings of responsibility. A number of

cases also changed the distribution of recycling and waste bins to encourage recycling. For example, the majority of case study organisations removed individual waste bins from beneath desks in offices and placed recycling bins in locations central to where employees congregate. In general, fewer organisations explicitly focused on reuse or waste reduction. It is plausible to suggest therefore that most case study organisations "picked the low-hanging fruit" to use a common metaphor to characterise low carbon initiatives.

Among the *transport initiatives*, organisations have adopted a number of schemes to influence employee behaviour addressing both business travel and commuting. Providing training on fuel efficiency driving was one of the most popular initiatives aimed at drivers of company vehicles in public transport companies. The expectation is that drivers will learn the effects of fuel-efficient driving and will be motivated to improve. There is an obvious business case for these types of initiatives. Fuel-efficient driving training was often combined with investments in technology to reduce carbon emission more generally. For example, BusCo purchased low carbon vehicles and RailCo installed driver assistance technology to support eco-driving techniques. A smaller number of organisations put specific restrictions on business travel. For example, EnergyCo limited air travel and encouraged public transport use for business travel. To encourage low carbon transport methods when commuting, organisations often supported cycling through providing money towards equipment and facilities for cyclists such as cycle racks, showers and lockers (e.g., BusCo, CouncilOrg, HealthOrg). Direct restrictions on how employees travel to work were less common, with only EnergyCo introducing policies that restricted car parking.

To *conserve or enhance biodiversity*, organisations adopted a number of schemes. Approaches to this varied but often involved improving employee access to green space for fresh air, exercise or quite contemplation, which has benefits for physical and mental health. A small number of organisations have introduced policy on conserving and enhancing biodiversity. For example, RailCo works with local communities and environmental charities to regenerate the green space surrounding stations transforming them into gardens to encourage wildlife and enhance biodiversity, and UniversityOrg is currently carrying out audits on their grounds to measure biodiversity and identify possible areas for improvement. Finally, several case study organisations participated in biodiversity related community projects as part of their broader CSR activities (e.g., BusCo, CouncilOrg, HealthOrg).

Despite recent scandals of food adulteration and calls for more transparency in food-supply chains, initiatives on *food procurement* were rare among the case study organisations. A small number of cases reported a shift towards using more sustainable food and drink. For example, the HealthOrg Centre have introduced a policy of offering Fair Trade or locally sourced food and drink as part of their catering packages, and at UniversityOrg a student-and volunteer-run food co-operative provide local, ethical, organic and Fairtrade food to students and staff. To a large extent the absence of food-based initiatives is due to the fact that most case study organisations have no onsite catering facilities.

In summary, across the case studies, organisations of all types engaged in a range of sustainability initiatives, rather than a single initiative in isolation. Case study examples demonstrate a range of activities of different scale and complexity. Those schemes that tend to cost very little money and time to implement, in particular recycling and energy saving initiatives, unsurprisingly were more prevalent than fundamental high-investment changes such as new transport initiatives. Furthermore, as highlighted in the methodology chapter, case study organisations tend not to use standardised methods of measuring impact and therefore the researcher faces a major challenge to compare the initiative effects across organisations.

This chapter has reviewed the range and impact of sustainability initiatives that have been implemented in case study organisations. Its purpose is to highlight the main activities in each of the case study organisations and discuss the different types of sustainability activities across the cases. The evidence demonstrates that sustainability initiatives/projects are about much more than energy-efficiency technology to reduce carbon emissions. The following chapter examines what motivates managers and stakeholders in Scotland to engage in sustainability activities. It identifies some of the key drivers and barriers to workplace environmental sustainability. Its purpose is to draw attention to the key drivers of sustainability initiatives in each of the case study organisations, to consider the role of stakeholders who influence sustainability strategy, to examine the benefits of moving to a sustainable workplace and to identify the internal and external barriers to change.

Chapter 5

Drivers, Stakeholders, Benefits and Barriers to Workplace Sustainability

Managers attempting to create sustainable workplaces are often less effective than they might be because they do not understand the 'drivers' of change (Jørgensen, Owen, and Neus, 2008) and, moreover, they fail to recognise some of the key dynamics that affect employment relations and outcomes. This chapter seeks to identify the main drivers, stakeholders, benefits and barriers to workplace environmental sustainability. Specifically, it examines (1) what driver public and private sector organisations to implement environmental sustainability initiatives in the workplace, (2) the role of stakeholders who influence sustainability strategy (3) the potential benefits of implementing environmental sustainability initiatives in the workplace, and (4) the barriers to workplace environmental sustainability.

5.1 Drivers for Sustainability in the Workplace

The context and character of the sector in which the organisation is located shapes some of these drivers of environmental sustainability change in the workplace. Table 5.1 identifies the main internal and external drivers in the study which are averaged and rank ordered.

Table 5.1: Rank order of environmental managers' perceptions of drivers of sustainability initiatives

Rank order:	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo
Internal						
1. Reducing organisational risk	Very important	Very important	Important	Important	Very important	Very important
2. New product / service opportunities	NR	Very important	Important	Very important	Important	Very important
3. Promoting social responsibility	Important	Important	Very important	Important	Very important	Very important
4. Ethical reasons	Important	Important	Very important	Of little importance	Very important	Very important
5. Reducing costs / efficiency savings	Very important	Important	Important	Important	Important	Important
6. Health and safety	Important	Very important	Important	Moderately important	Very important	Very important
7. Brand reputation / green marketing	Important	Important	Very important	Important	Important	Very important
8. Contributing to comprehensive policy framework	Important	Important	Important	Important	Moderately important	Very important
9. Profitability	NR	Of little importance	Important	Important	Very important	Moderately important
10. Attracting and retaining top talent	Moderately important	Important	Important	Moderately important	Important	Important
11. Meeting demands of existing employees	Important	Important	Important	Moderately important	Important	Moderately important
12. Increasing the transparency operations	Moderately important	Important	Important	Moderately important	Of little importance	Very important
13. Trade union pressure	NR	Important	Important	Of little importance	Important	Not at all important
External						
1. Regulatory compliance	Very important	Very important	Important	Important	Very important	Very important
2. Reduce the impact on local environment	Very important	Important	Important	Very important	Important	Very important
3. Providing assurance to stakeholders and regulators	Important	Very important	Important	Very important	Moderately important	Very important
4. Customer demand	NR	Very important	Important	Very important	Important	Moderately important
5. Maintaining rapport with government agencies and NGOs	Moderately important	Very important	Important	Important	Important	Very important
6. Maintaining a "license to operate"	NR	Important	Important	Very important	Very important	Very important
7. Improve stakeholder engagement	Moderately important	Moderately important	Important	Moderately important	Important	Very important
8. Competitors increasing sustainability commitment	NR	Moderately important	Important	Of little importance	Moderately important	Important
9. Stricter requirements from partners along the value chain	NR	Moderately important	Important	Of little importance	Moderately important	NR
N =	1	1	1	1	1	1

Note: N = total number of respondents (environmental managers) in each organisation; NR = no response. The information in Table 5.1 is from the environmental management survey. The responses provided by the participants were averaged and rank ordered for the six organisations in the study.

In addition to the drivers identified in Table 5.1, the following were some other drivers suggested by managers in face-to-face interviews for implementing sustainability initiatives: gaining competitive advantage; meeting demands of shareholders; reduce energy, fuel, waste, and water

consumption; higher waste disposal costs; increasing the transparency of operations and processes; management demands for broader value creation; access to government funding; and taking advantage of 'moments of change' such as relocation.

With regard to external factors, a feature that all six case study organisations share is that regulatory compliance seems to underpin the different sustainability initiatives, and is the context for other observed drivers. The results indicate that in four out of six case studies environmental managers considered that meeting regulatory compliance requirements was 'very important'. In all of the cases, sustainability initiatives involving waste and recycling were driven by the Zero Waste (Scotland) Regulations 2012. In terms of energy initiatives, at EnergyCo government legislation drove investment in sustainability initiatives through a combination of higher costs associated with increased taxes and reputational risk. Other common external drivers were, reducing the overall impact on the local environment and providing assurance to stakeholders and regulators, ranked second and third respectively. The qualitative data highlights the importance of senior managers responding to external regulatory compliance requirements and championing sustainability at a strategic level.

With regard to internal factors, reducing organisational risk exposure was considered to be 'very important' in four out of the six cases. The reduction of operating costs was a key driver of change in all of the case studies. The majority of environmental managers indicated that reducing costs was either a 'very important' or 'important' driver. In all of the cases sustainability initiatives involving electricity use were seen as an effective strategy to reduce overall energy costs. In the public sector cases (CouncilOrg, HealthOrg, UniversityOrg) energy reduction programmes were seen as a strategy to reduce costs and maintain service levels. Similarly, in the transport industry cases a significant driver behind the implementation of low-carbon technology was the desire to reduce fuel costs and satisfy customer demand.

Table 5.1 shows the promotion of social responsibility, ethical considerations and green marketing ranked third, fourth and seventh respectively. In the transport cases, investment in low-carbon technology was part of a green marketing strategy to increased ridership and encourage modal shift from private car to public transport. Similarly, at HealthOrg Centre environmentally friendly events packages were developed to help meet the needs of public sector clients that are encouraged by the Scottish Government to embed environmental conservation in the buying of goods and services.

The results indicate that in four out of the six case studies the majority of environmental managers indicated that meeting the demands of existing employees was 'important'. Trade union pressure was considered to be 'important' in three out of the six cases. At BusCo and EnergyCo, which reported lower levels of employee and union participation in environmental sustainability, meeting the demands of existing employees was 'moderately important' and union pressure was reported as either 'of little importance' or 'not at all important'. This is supported by the qualitative data that reports lower levels of employee and union participation in environmental sustainability in the bus and energy cases. The following section discusses in more detail the internal and external drivers of sustainability initiatives across the case studies.

5.1.1 Internal Drivers

Organisational Risk

Although the issue of organisational risk emerged as an important driver in the survey, in the face-to-face interviews participants primarily focused on reputational risk in all of the six cases. Several interviewees reported that because their organisation is well known and in the public eye, they are under considerable pressure and scrutiny from different stakeholders to address environmental issues that arise from their operations. For example, at RailCo, commenting on the potential reputational risk associated with poor recycling performance on trains, a graduate environmental manager argued that, *'It is very visual that we don't do it. All it takes is a couple of concerned people on the train to say, 'you are not recycling, I'll Tweet that or Facebook that'* (Graduate Environmental Manager, RailCo, 2013.07.11). Interviewees in the private sector often highlighted the reputational risk that poor environmental performance poses to their organisation. In the public sector, at HealthOrg, reputational risk associated with poor environmental performance stemmed from their overall responsibility to demonstrate leadership and provide support to other health boards in Scotland. As the Sustainability Manager for the past two years put it:

> *As a board one of our remits from one of our business units is to support the rest of the NHS proper, on guidance with energy conservation, waste and recycling etc. We almost have a responsibility a duty and an element of avoiding reputational risk…Reputational risk is very much at the forefront of a lot of what we do because of the role of supporting NHS Scotland…The biggest risk is reputational…In the grand scheme of things we are little fish, but we have a lot of knowledge and a lot of strength to guide the rest of the NHS, and so our push is to be as efficient as possible.* (Sustainability Manager, HealthOrg, 2013.07.08)

This participant's statement affirms the importance of reputational risk in shaping sustainable practices. Part of HealthOrg's overall remit is to support the environmental management activities of other NHS health boards and therefore there is an expectation that they demonstrate

best practice and achieve higher levels of environmental performance. Similarly, the CouncilOrg's announcement to exceed the European Union 20 per cent carbon reduction objective by 2020, through signing the Covenant of Mayors, was seen as increasing the reputational risk associated with poor environmental outcomes. Some respondents at CouncilOrg argued that these types of public announcements were helping to drive the council's sustainability agenda forward.

Ethics and Corporate Social Responsibility

All six environmental managers expressed a 'moral' imperative for their sustainability initiatives, articulated a belief that encouraging low-carbon behaviour is the 'right' thing to do. For example, in both the public and private sector at HealthOrg and RailCo ethical consideration also motivated senior managers to increase engagement in sustainability at a workplace level. The notion of ethical environmental behaviour was expressed like this:

> *To start with (economics) was not a driver it was mostly it is the right thing to do… Our customers are probably less interested now than they used to be…what you need to have is local management support, which is myself, and you need someone who can drive it forward on a day-to-day basis. Quite frankly without those two aspects it wouldn't have happened end of story. You need to have two, you need to have the management support locally and you need to have somebody who is going to deliver it that is on the ground. And that's what made it happen. Without that, personally, I think this is all down to individuals... without key individuals who are keen and enthusiastic to make it work it won't work.* (Head of Unit, Chair of Sustainability Committee, HealthOrg Centre, 2013.07.08)

> *I am trying to encourage staff to bring in initiatives that they know from home or from other companies they can see… One of the ideas that the Environmental Champion had was to involve local businesses. There was a station that had a McDonalds across the road and he wanted McDonalds to sponsor a recycling bin in the station so for every time the bin was emptied McDonalds would donate a pound to a local charity… I think if the public see that we are doing something good for a charity as well as well as trying to recycle I think that might encourage people there is more of an incentive then to recycle.* (Operations Manager, RailCo, 2013.06.11)

> *What I do is I ensure that all the paper work is recycled… I have managed to introduce in the Travel Shop is an electronic shift sheet. So it has taken it away from a paper and I have managed to put it on to Excel document… I have managed to get that introduced into the Travel Shop. I don't think there is any other ticket office that has that currently. So I am the first one to get that done.* (Travel Shop Team Leader, RailCo, 2013.08.04)

The qualitative data shed light on the important role of senior managers in promoting corporate social responsibility and encouraging low-carbon behaviours. The qualitative data above underscores the effectiveness with which successful environmental champions can promote the integration of sustainability concerns into the activities and decision-making of small business units within large organisations. Not all organisations require a large number of people to improve environmental outcomes. Notably in smaller organisations or smaller workplaces, a senior manager or environmental champion could be the sole major force for planned change.

The energy and transport cases reported that they had a social responsibility to engage in sustainability initiatives because of the carbon intensive nature of their businesses. The energy,

train and bus companies, for example, accepted that core business activities could have harmful effects on public health and the common space so it was necessary to reduce or offset these impacts. For instance, the Business Development Analyst employed for eight years at the BusCo put it bluntly, '*If you strip it right back running buses is not the right thing to do because they pollute the planet, they are big, smelly, and dirty*' (2013.08.06). Comparatively, HealthOrg believed that the conference and events services sector were responsible for a high degree of waste and therefore needed to reduce their environmental footprint.

On the other hand, the importance of sustainability in higher education is driven by the responsibility to contribute to 'global challenges'. At UniversityOrg interviewees noted that as an international research institution and key stakeholder in the Scottish economy, the institution had a considerably large carbon footprint. Participants considered that their institution had a social responsibility to contribute both at a local and international level to tackling key global climate challenges:

> *There is… an aspect to do with the university itself addressing the global challenges and being seen to do something, which is vital when we are operating in a very competitive international market. If we are seen to be completely 19th century and backward looking and not really getting our act in gear and minimising our negative impact then we are not fulfilling our full potential. It is increasingly important from that aspect of things… My view is that, from the Principal on down, most of the senior management staff recognise that this is a must have, a must do.* (Sustainability Advisor, UniversityOrg, 2013.07.02)

> *I think as an institution we have a huge responsibility to make sure that we are on page with the 'SRS' (Social Responsibility and Sustainability) agenda and moving forward appropriately. I think some cynics may say 'oh well they just want to be seen to be doing something', but I do genuinely think that the university really does care and doesn't just want to be paying lip service and does actually want to see some action on this... I think the university has a very strong strand of this leadership thing where I think almost more than caring about carbon efficiency they care about being the best university… but also there is just this idea of this is the right thing to do.* (Sustainability Engagement Manager, UniversityOrg, 2013.07.21)

In the case of UniversityOrg, investing in sustainability activities is broadly aligned with the strategic purpose of their organisation. As such, investment in sustainability is explicitly embedded in their corporate strategy and supported by academic research, teaching, and employee and student led community initiatives (UniversityOrg's Climate Action Plan 2010-2020: 5). In another case, EnergyCo had come under direct attack from environmental pressure groups and it was aware about the repercussions that a recently announced reduction of investment in offshore wind farms could have a negative impact on its corporate image. In 2014, customer satisfaction for energy companies has fallen to a new low with EnergyCo scoring at the bottom of the league table.

Cost and Efficiency

In the transport industry, a significant motivator behind the implementation of low-carbon technology was the desire to reduce fuel costs. For example, RailCo recognised that pollution reflects hidden costs and by implementing eco-driving training and driver assistance technology management aimed to prevent unnecessary pollution, improve fuel efficiency and decrease the overall cost of fuel. Similarly, at BusCo drivers were trained on eco-driving practices and the introduction of driver assistance technology was under review. In the public sector cases, government budget cuts and increased energy prices provided the financial context to certain sustainability initiatives. This was most evident in CouncilOrg where the recent 'agile' working and office rationalisation programme was predominantly marketed as both a cost saving measure and carbon reduction initiative. Commenting on how reducing overall operating costs was seen as a key driver for sustainability, the recently appointed Principle Officer for Carbon Management at CouncilOrg argued that:

> *The services are now recognising reducing energy costs is one of the measures that they can take to reduce their overall costs. There is a lot of talk in the council about revenue generation and ideas for that, but gradually people are coming around to the idea that resource efficiency and reducing consumption can also come from the bottom-up to support that.* (Principle Officer for Carbon Management, CityOrg, 2013.08.13)

This suggests that in the context of UK and Scottish government budget cuts and general resource constraints in the council, sustainability activities were seen as a strategy to control and reduce operating costs and maintain service levels. In all of the cases sustainability initiatives involving electricity use were seen as an effective strategy to improve resource efficiency and reduce overall resource consumption and energy configuration costs.

Profitability

As a driver for implementing sustainability initiatives in 'for profit' organisations environmental managers' ranked profitability ninth, Table 5.1. Increasing the profit margin was a key driver of change in three of the case studies. In two, it was 'important' and in one it was a 'very important' driver. Potential competitive advantage and profitability benefits arising from sustainability initiatives were a factor leading to their adoption in the train and bus cases. Both companies believed there was a general trend in their sector towards increased investment in low-carbon technology and therefore there was a need to keep up with, if not improve upon, the technology and HR practices of their competitors. For example, at RailCo in terms of winning the franchise bid, increasing the profit margin by reducing operating costs was a clear driver for investing in sustainability activities. As a senior manager at RailCo, with over twenty years of experience, in the transport industry explained:

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We see the challenge of operating in a franchise, a fixed term, and the challenge is sustainability doesn't need to be excluded from that franchise area. So we are trying to influence as much as we can in terms of 'whole-life-costing' of present assets and bringing down the impact of our business. Train travel is pretty much accepted as a low environmental impact method of travel and we are keen to encourage that, but we really do need to back it up with facts, figures and continual improvement. That will give us competitive advantage in terms of winning the next franchise bid… but also we need to maintain the momentum that we have built up and increase that as we move forward. (TransportGroup) have taken a particular strategy to win the business. We wouldn't like to see that go back to a low cost operator, for example, who literally slashed and burned costs and didn't take into account sustainability. We would then lose the opportunity to build in a lower future environmental impact…. All the way up the (TransportGroup) Chief Executive I see us trying to differentiate on quality…. We wouldn't want to go back to slash and burn… we want to be able to continue with a responsible approach to environmental management. (Head of Environmental Compliance and Sustainability, RailCo, 2013.06.02)

Unlike other European networks, a feature of the UK privatisation process is that train operators such as RailCo does not own the assets it operates, and is therefore limited in what measures it can take when considering its environmental impact. Nonetheless, sustainability initiatives contribute to business objectives in a number of different ways: (a) advanced environmental systems contribute to lower overall operating costs for stations and platforms, for example; (b) an enhanced corporate social responsibility profile could potentially encourage increased ridership and result in improved ticket sales; and (c) indirectly the company benefits from sustainability activities through a strengthening of their franchise renewal bid, which is necessary for the continuation of the franchise agreement.

However, in contrast to RailCo operating as a private company, at BusCo the perception of 'public ownership' was reported as a source of competitive advantage. For example, BusCo's Head of Human Resources noted that municipal ownership enabled their higher levels of investment in new technology compared to industry standards, which in turn also influenced their overall marketing strategy:

We have what many organisations would aspire to. We are in that virtuous circle where we run a commercial organisation, but we are not driven by shareholder dividends and market demand and fluctuation in terms of the stock market. What it means is our Board has the advantage of being able to invest profits back into the business. Which means we can buy a good fleet and pay our people well, but buy a good fleet, which in this day in age means more eco-friendly fleet because they are all becoming that way. So we are into that virtuous circle and that is our massive competitive advantage and that is why we stay ahead of the market. (Head of Human Resources, BusCo, 2013.08.21)

From a marketing perspective, as one of the few remaining municipal bus companies in the United Kingdom, BusCo is able to leverage this to its advantage. As the Head of Human Resources explained:

There is the marketing advantage, the customer facing advantage. There used to be a campaign 'your locally owned bus company'. So the fact that the profit isn't making rich people richer, or getting frittered by some kind of pension fund… Then there is an advantage there because people know that it is owned locally. It is a publicly owned company so that is an advantage. (Head of Human Resources, BusCo, 2013.08.21)

Moreover, investment in low-carbon technology also appeared to be supported by a broad-based group of influencers within the entire organisation. The Environmental and CSR Manager employed at BusCo for twelve years puts it like this:

> *The final driver is coming from within the business itself, from staff, drivers. It is not really a coherent and overwhelming support, but it is clear that there is much more support for the work now than there was in its infancy. <u>I think that again is because drivers and the engineers and other staff are starting to lock into this sustainability culture and they expect us to behave in a certain way</u> (emphasis added). So that there is a driver and there is definitely the recognition that we as a business in Edinburgh are a polluter there is no two-ways about that we have to recognise that and we have to do something about it.* (Environmental and CSR Manager, BusCo, 2013.08.21)

The environmental manager's claim that employees at BusCo were starting to develop a more sophisticated understanding of sustainability is evidenced in the following statements:

> *I think in my role it is always a trade-off between what is commercially maybe the right thing to do and what is environmentally the right thing to do… There is a lot of talk about introducing electric buses, but they all come with trade-offs against the distances you can run them and the passengers you can carry so it has to be the right mix. I certainly wouldn't like to arrive in a position where environmental policy was dictating commercial activities of the business. It has to be half-and-half… I think ultimately it is about ensuring that the company is still here in 20 years-time and performing well and I think we can do that in a way that we are still taking big steps to be environmentally friendly. I think introducing new buses, which people perceive to be green is also a good thing commercially for us because passenger numbers will go up. I think we need to try to keep the momentum with that and keep going forward.* (Business Development Analyst, BusCo, 2013.08.06)

> *The general consensus of the public is that they own (BusCo). The Council I am pretty sure are getting pressure because of pollution levels in certain areas and they have to work with us to determine how they can reduce that. The thing is we are profit making as well, but I think we are probably in a better position than private companies to obtain funding… We do invest heavily in new fleet because I think none of our buses are older than 12 years old. We basically sell a lot of our old buses to places like Reading so they are using really old fleet and our older vehicles have nearly all been fitted with carbon reducing technology to bring them up to a higher standard so that is our investment. We might not be buying new buses, but the buses that we have got we are investing money to improve environmental standards.* (Marketing Communications Co-ordinator, BusCo, 2013.08.06)

At BusCo, interviewees argued that public transport is a necessary part of a sustainable transportation system. It was broadly understood that there were operational challenges to implementing new low-carbon technology, but that investments in low-carbon initiatives were necessary to remain commercially competitive. In the public sector, the evidence does not support the view that competition and/ or gaining competitive advantage is a primary driver for implementing sustainability initiatives.

5.1.2 External Drivers

Regulation

The six environmental managers surveyed and interviewed ranked regulatory compliance as the top external driver for implementing sustainability initiatives (see Table 5.1). Environmental legislation underpinned many of the sustainability initiatives, and provided the context for other observed drivers. Interviewees from both public and private sector organisations in the study

noted the Act and highlighted their responsibility to reduce greenhouse gas emissions and help with decarbonising the economy.

For example, the Programme Manager within the Department of Sustainability at UniversityOrg described the role of government legislation in shaping organisational activities like this: '*We are a public body so we are required to carry out a number of duties laid down in the Climate Change legislation of 2009 that the Scottish Government passed and we have obligation to work toward the low-carbon Scotland*' (2014.01.15). The Climate Change Act (Scotland) 2009 was often noted as a key driver for sustainability initiatives. A manager at, HealthOrg explained it this way:

> *There is the Climate Change Scotland Act 2009…. that is by far the biggest driver and that's what started our, getting wind of that act, is what started NSS's move towards environmental management…. The Climate Change Act was approved in 2009 and by 2010 our own board of the Executives approved the environmental strategy... That in it is the foundation of the work that I am doing... Within the policy it is substantial enough, it looks at waste, it looks at producing sustainable development plans that go to the government for review, it looks at annual self-assessment to make sure we are matching the requirements from the good corporate citizenship level…Which ties in nicely with some of the bigger NHS policy drivers, better provisional care that is also linked with a 2020 timeline. It is kind of all tying that together all the key drivers for the board.* (Sustainability Manager, HealthOrg, 2013.07.08)

The Head of Unit at HeathOrg reported that although environmental legislation certainly played an important role in waste and recycling practices, it was not always the driving factor. For example, environmental values are now so deeply embedded in HealthOrg's operations that their activities take them considerably beyond legislative compliance. Meeting legislative requirements represents the absolute minimum goal for respondents at HealthOrg. A number of the sustainability initiatives were undertaken as a direct response to environmental legislation.

With regard to energy initiatives, managers in most of the cases highlighted the impact of the CRC Energy Efficiency Scheme (formally Carbon Reduction Commitment) designed to improve energy efficiency and cut emissions in non-energy-intensive organisations in the public and private sector. For example, the CRC and Energy Efficiency Manager at EnergyCo argued that the CRC legislation was initially a key driver behind the company's introduction of low-carbon technology and the 'War on Watts' employee energy awareness campaigns. He explained:

> *The CRC initially there was not just the opportunity to reduce the tax that you were paying out, but there was also the reputation driver because at the beginning there was a publicly available league table which has now been scrapped, but that was one of the big things for us as well we wanted to be seen to be doing well… The tax that we pay, up until now we have pay £12 per ton of C02 and that amounted in the first couple of years to about £1 million that we were paying so the opportunity to reduce that tax… We put it in place with 15% carbon reduction target over a 5-year period and an associated programme of investments and behaviour change campaigns to achieve that and at the moment we are into the 3rd year so the idea is to achieve 9% off the baseline year and we are just ahead of that actually so we are making good progress. The government scheme in itself the tax reduction wouldn't be enough to justify the investment that we are making. The payback wouldn't come simply from reducing tax it comes from reducing energy costs.* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

In EnergyCo, the CRC legislation pushed investment in sustainability initiatives through a combination of higher costs associated with increased taxes and reputational risk. Therefore, environmental legislation was linked with other drivers such as environmental champions' activities (to meet the legislation) or risk minimisation efforts (to comply with the legislation).

With regard to waste and recycling initiatives, all the cases discussed the very significant impact of the Zero Waste (Scotland) Regulations 2012 that requires separate collection for food waste and recyclables from 1 January 2014. For example, environmental managers from both the public and sector cases sector explained in detail how government legislation significantly affected day-to-day work routines and the overall direction of their organisation. An environmental manager and engagement facilitator explained it this way:

> *Quite often I ask managers to do something and they will not do it, but if we say this is the law they might. If we go to their manager and say, 'this is the law we need to do it' then suddenly they will start doing it. With new waste regulations we have got to be separating our waste and recycling. We have been trying to do it for years and it's been, 'we don't have time, we can't we can't' and now since it is becoming the law. It is very visual that we don't do it…We struggle to be taken seriously from managers at our own level, higher ones do take us seriously, but ones sort of equivalent in a different section no.* (Graduate Environmental Manager, RailCo, 2013.07.11)

> *In terms of waste regulations… it has been an absolute gazillion times easier than another handful of stuff I have tried to do… The Director of Estates sent out an email saying every single building has to have these new waste and recycling streams, it is the law. And then we go into buildings and we start doing it and even if you meet management who are a bit reticent you just nod and go, 'okay we are still going to do it. It doesn't really matter because you have got to do it'. That has been so much easier in terms of the practicalities of the actions that you need to take and the end result even though it has been a wee bit hazy with the streams and the contamination and all that it has been a gazillion times easier because it is just, 'here's the law, this is what we are doing, you need to it by this date, how do you want to solve this problem out?' Done, off you go, easy.* (Sustainability Engagement Facilitator A, UniversityOrg, 2014.01.15)

This evidence emphasises the importance of regulatory compliance. The Zero Waste regulations were seen as a key driver for improving waste recycling infrastructure and employee awareness in all of the cases. While government legislation is seen as a key driver at a corporate level, it was also noted for facilitating the day-to-day efforts of environmental managers at a workplace level.

The interaction between different levels of environmental legislation was discussed in all of the cases. Environmental law is neither a separate nor a self-contained system or sub-system of law. While environmental law is beyond the scope of this research, it provides some insights into the nature of the relationship between environmental law and corporate sustainability strategy. The environmental manager at BusCo, for example, highlighted how different levels of environmental law directly impacts on operations like this:

> *At the moment there are a few different drivers. First, and these are really in no specific order they are equally important. However, depending on prevailing political and internal business moods different ones will assume different degrees of priority within that, but they are basically formed around regulatory constraints. So the Scottish government has clearly*

set ambitious carbon reduction targets. The City of Edinburgh Council is facing potential fines from the European Parliament for breaches of air quality so there are moves a foot to investigate either the establishment of a low-emissions zone or a low-emissions scheme in the city of Edinburgh associated with regulatory air quality management areas. So regulation definitely comes into it. Noise currently is basically unregulated other than if you make a vastly excessive amount of noise but I would imagine will come into the regulatory framework reasonably soon…We face the prospect of being either restricted or removed from certain parts of the city if we don't start to perform adequately, or even better than that in an environmental and sustainable way and that would have huge commercial implication for us. (Environmental and CSR Manager, BusCo, 2013.08.21)

The environmental manager at BusCo explained how the local government, the majority owners of BusCo, was faced with the potential of European Union fines for their inner-city carbon-dioxide emissions. This resulted in the potential of the local city council legislating operational restrictions through the introduction of low emission zones. The examined public and private sector organisations were found to deal with environmental legislation in a similar way. In both sectors, dedicated employees were responsible for scanning environmental legislation and communicating relevant directives to the respective departments and people in charge.

Customer Demand

Table 5.1 identifies customer demand as an important external driver of change. At BusCo, for example, hybrid buses were purchased with an aim to improve both fuel efficiency and customer satisfaction. The new hybrid buses were repainted in green to reflect the use of fuel-efficient technology. This eco-friendly branding is part of a marketing strategy to encourage a modal shift from private car to public transport. It was explained like this:

We carry an annual customer satisfaction survey amongst both regular users of our services and also either irregular users or people who never use our services at all and that can be very insightful to indicate which factors would encourage people to instigate modal shift from private car to public transport, and one area that regularly comes up is the introduction of green vehicles to our fleet and typically it is (30-40%) of people who never use the bus indicate that they would travel by public transport more regularly if greener vehicles introduced. So that is a pretty strong driver and those figures are backed up by DFT (Department of Transportation) stats from 2007 as well. So there is clearly a mood I think which is growing in strength and growing importance because people are starting to take heed of sustainable business practice… One area which I probably should mention which I don't think is strong at the moment, but is probably getting stronger, is the concept of green tourism. We operate all of the open-top city tour buses in the city and there is just the beginning of the movement towards people questioning the environmental credentials of their holiday and starting to make active choices based around the sustainability credentials of service providers within the tourism sector… The opportunity is commercial growth of the business in blunt terms. (Environmental and CSR Manager, BusCo, 2013.08.21)

This finding demonstrates the importance of customer satisfaction and green marketing. At BusCo, respondents argued that investing in low-carbon technology such as hybrid buses potentially contributes to increased ridership and improved overall customer satisfaction and loyalty. Similarly, respondents at RailCo argued that their sustainability initiatives helped market rail travel as a more socially responsible, lower-carbon form of transportation.

HealthOrg Centre provides event services primarily to public sector bodies. At the centre public sector clients, rather than private sector clients were the key motivators for sustainability being

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integrated into event packages. In particular there were high demands from public sector customers for sustainability to be incorporated into contracts. As the interviewees reported, the Scottish Government Sustainable Procurement Action Plan encourages public bodies to embed environmental conservation in the buying of goods and services. Further, the Scottish Government published a letter encouraging public sector bodies to choose environmentally sustainable events package options. It was put like this:

> *One of our key clients is the Scottish Government and they issued a letter to all of their staff and we received a copy that they put pressure on all their staff to choose venues with the GTBS (Green Tourism Business Scheme) accreditation which is the one that we have and they did say choose the venues with the accreditation because it makes business sense it does go along with our agenda to reduce carbon emission and only if you don't have the availability in the particular venue that go for one that doesn't have the award. So certainly that pushed us to make even better any of the efforts we have done.* (Conference Coordinator, Environmental and Equality Lead, HealthOrg, 2013.07.09)

The evidence highlights again the importance of customer demand and green marketing. The HealthOrg Centre's environmentally friendly events packages were developed to help meet the needs of potential public sector clients. The various internal and external forces identified in this section triggered sufficient momentum to cause managers to invest in new carbon reduction technologies, processes and HR practices. The next section analyses and evaluates the role of internal and external stakeholders who might influence an organisation's low-carbon strategy.

5.2   The Role of Stakeholders

In all of the cases both internal and external stakeholders were seen to exercise influence on environmental sustainability strategies. The influence of stakeholders varied between the selected cases depending on the sector and the nature of the organisation's business. Table 5.2 shows key stakeholders identified in the research.

Table 5.2: Stakeholders driving environmental sustainability strategy

Internal stakeholders	External stakeholders
Social responsibility and sustainability team	Government / council
Senior management team	Shareholders
Property and facilities management	Customers
Human resources team	Local community
Line-managers	Media
Environmental champions	Competitors
All employees	Suppliers
Trade union representatives	Environmental groups / trade unions

Note: A content analysis of the interview transcripts was undertaken to establish common themes in the text and identify key stakeholders who influence sustainability strategy in the workplace.

The significance of internal stakeholders varied within organisations depending on the level of responsibility for managing and implementing sustainability initiatives and the nature of the

change involved. The qualitative evidence underscores the role of external and internal stakeholders in shaping change towards environmental sustainability. For example, at EnergyCo, the CRC and Energy Efficiency Manager described the influence of both external and internal stakeholders like this:

> *I guess you could categorise that into the internal and external stakeholders. The external you have the government and we have a whole team of people who engage with the political world out there. Shareholders, investors are obviously quite important, are massively important to the company. Customers again and their perception of things… The fact that the public is becoming more aware of these things and maybe there is a bit more of a demand for green electricity and energy efficiency equipment… The big driver for customers is still cost and service and sustainability and the environment is probably a little bit further down the list… I guess the local community and around about where our sites are based and particularly when it comes to new projects such as wind farms where there is upheaval in the community. They are quite important stakeholders.* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

Commenting on internal stakeholders within the company and their influence in driving energy efficiency initiatives within the workplace he reported that:

> *Internally, the likes of in terms of trying to get the message across just thinking from my own point of view for energy efficiency you have the senior managers which we engage with, the team managers are probably quite a key area as well, the FM facilities managers at each of the individual sites, and then the general employees. And each of them is important in their own sort of ways because unless you can hit each level the whole thing doesn't really work. So that is what we have found over recent years it is about trying to engage with each of those groups. It is not necessarily one level is any more important than the other it is just about making sure that you communicate with them all.* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

The evidence suggests that both external and internal stakeholders influence sustainability strategies. The research showed that government, shareholders, customers, and the local community were considered important external stakeholders. Internally, the research revealed that the responsibility for implementing and managing sustainability initiatives lies with different functions and actors across different organisations.

The private sector cases in energy and transport (BusCo, RailCo, EnergyCo) demonstrate the influence of government within a regulated industry. This influence may extend either directly through environmental regulation or indirectly through policy objectives. At the energy, train and bus companies several interviewees reported that government regulation and policy commitments shape their sustainability strategy. Government oversight and regulation were a key factor especially in the train company case. For example, the Head of Environmental Compliance and Sustainability at RailCo reported that the Scottish Government had a significant impact on regulating their operational activities and therefore influencing their overall sustainability activities:

> *Network rail own the assets and they are responsible for replacement of the major assets…In terms of how we try to approach the franchise… Network Rail they are our political masters... In terms of the big risks, Transport Scotland are the political one, Network rail are the operational one… we can't make a significant contribution to 2050 targets, for example, unless the correct assets are replaced to allow us to do that. That is a big risk. The other stakeholders are obviously our own staff and to a lesser extent, one we can't ignore, the general public because if we can differentiate by*

being a lower environmental impact transport option then we can increase our passenger numbers and create the modal shift that will make a difference in the transport sector in terms of bringing down the environmental impact. (Head of Environmental Compliance and Sustainability, RailCo, 2013.06.02)

This demonstrates the critical influence of the Scottish Government in regulating the rail industry. At RailCo, interviewees reported that as a company they were expected to play a strategic role in helping the Scottish Government reach its climate change 2020 targets. However, as mentioned previously, given RailCo does not own the assets it operates, it places severe limits on what measures it could implement to reduce its carbon footprint. Economic tensions appear to exist between the Train Company and Network Rail. RailCo incurs the operational costs for buildings, and Network Rail incurs the capital costs for investment in railway infrastructure. This example underlines the economic tensions that exist within the current ownership model and management governance of the rail industry in Scotland and the rest of the United Kingdom.

The public sector cases (CouncilOrg, HealthOrg, UniveristyOrg) emphasise how strategic aims and social context can shape an organisation's sustainability plan. At CouncilOrg, political leadership, economic objectives and government policy shape the overall approach to sustainability. A union representative explained it this way:

I think there are different drivers in the council… political drivers in terms of particularly in the last six or seven years we have had a green group within the council who has an explicitly environmental agenda… In general my impression would be that as far as the environment is concerned they are primarily concerned at the local environmental level. The quality of spaces, how useable they are, those kinds of dimensions… You have then got the external political drivers or policy drivers that come from the UK government, Scottish government, and European Union. I would say that we are doing more than doing minimum, but like any policy environment there is always tensions between different policy goals. I don't think people necessarily anti-environment or anti-green, but I don't think it would be controversial to say that the economy is the primary policy driver in Glasgow. So I think that in terms of who is driving it, I think that there are different drivers. There will be a bottom-up grassroots dimension to it as well that absolutely comes from individual staff members, peoples enthusiasm for issue, knowledge, concerns and kind of a multi-direction would be fair to say, but all happening within the boundary of a very clear political priority that the economy is the priority. The creation of jobs, economic stimulation, economic growth and also within context of a wider public sector in inverted commas 'drive for fiscal responsibility' which has a big impact in terms of what we can and cannot do in terms of time and resources and prioritising that. (Urban Planner and Union Representative, CouncilOrg, 2014.04.23)

This response indicates that locally elected leaders, the Scottish Government and the European Union strongly influence sustainability activities within the council. It highlights that social context can shape an organisation's sustainability strategy, which ultimately determines the nature and intended outcomes of the strategy. It highlights also the tensions of integrating the three sustainability objectives of the economic, the social, and the environmental into an organisation's sustainability strategy.

In each of the six case studies the managers interviewed were asked to assess the benefits of increased collaboration with external stakeholders for environmental management. The findings presented in Table 5.3 are discussed below.

Table 5.3: Rank order of managers' perceptions of stakeholders for increased collaboration for environmental management

Rank Order:	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo
1. Suppliers	Agree	Agree	Agree	Agree	Strongly agree	Agree
2. Contractors	Agree	Neutral	Agree	Agree	Agree	Agree
3. Government and policy makers	Strongly agree	Neutral	Agree	Agree	Agree	Agree
4. Local communities affected by operations	Agree	Agree	Agree	Agree	Agree	Agree
5. Customers	Agree	Neutral	Agree	Agree	Agree	Agree
6. University and colleges	Agree	Neutral	Agree	Agree	Agree	Agree
7. Industry associations	Agree	Agree	Agree	Agree	Agree	Agree
8. NGOs and charities	Agree	Neutral	Agree	Neutral	Agree	Agree
9. Trade unions	NR	Neutral	Agree	Agree	Agree	Neutral
10. Competitors	Agree	Neutral	Agree	Neutral	Neutral	Agree
11. Environmental groups	Agree	Neutral	Agree	Neutral	Neutral	Agree
N =	6	6	8	9	9	6

Note: N = total number of respondents (environmental managers, HR managers, and managers); NR = no response. The information in Table 5.3 is from the environmental management, HR and management surveys.

In this thesis, the overwhelming majority of respondents agreed that their organisation should increase collaboration with suppliers and contractors, as well as government agencies and policy makers. It is also significant to note that previous research has largely failed to explore collaboration with unions as part of a comprehensive strategy towards workplace sustainability. In terms of union influence, respondents at RailCo and BusCo agreed that their organisation should increase collaboration with the unions. But the evidence suggests weaker support for increased collaboration in the other four cases. Managers and union representatives at CouncilOrg and EnergyCo acknowledged that sustainability initiatives were not seen as a part of the union agenda, and they were highly skeptical about the 'participation thesis'.

This section has identified some of the internal and external stakeholders that influence sustainability strategy. The findings suggest that increased collaboration with suppliers and local community were part of a comprehensive sustainability strategy.

5.3 Benefits Expected and Achieved from Sustainability Initiatives

In all of the cases investment in workplace training and learning was identified as an important internal benefit. For example, the CRC and Energy Efficiency Manager at EnergyCo reported that, *'we do have an e-learning course on sustainability which line-managers can go through to help their understanding… There are two separate modules. There is one that is a global module and then there is another one that is a (EnergyCo) module that explains what we do in terms of sustainability'* (2014.06.24). The expected internal benefits identified in the study are presented in Table 5.4. External benefits are positive outcomes from the implementation of sustainability practices that relate to the external interaction of the organisation. The expected external benefits identified in the study are presented in Table 5.5 and discussed below.

Table 5.4: Expected internal benefits of sustainability initiatives categories and examples

Organisational benefits	Financial benefits	People benefits
Encourage innovation	Cost savings from material, energy and waste reductions and efficiencies	Improved employee awareness and qualifications
Investment in training	Access to government funds and assistance	Enhanced skills and improved knowledge
Improved working conditions and safety		Provides a forum for dialogue between employees and management
Reduced costs or efficiency savings		Financial or non-monetary rewards linked to environmental performance
Demonstrate environmental responsibility		Providing a socially responsible workplace
		Long-term job security

Note: A content analysis of the interview transcripts was undertaken to establish common themes in the text and identify the expected internal benefits of sustainability initiatives.

Table 5.5: Expected external benefits of sustainability initiatives categories and examples

Commercial benefits	Environmental benefits	Communication benefits
Gain new customers/business and satisfy existing customers	Improved environmental performance	Create a positive public image
Gain a competitive/marketing advantage	Increased energy and material efficiencies	Develop better customer relationships
Develop more environmentally friendly products and services	Increased recycling	Develop better cooperation and relationships with regulators and administrative bodies
Continue to operate / stay in business	Reduced pollution	Develop better cooperation and relationships with suppliers
	Improved biodiversity	Improve communication with stakeholders
		Set an example for other organisations in the sector

Note: A content analysis of the interview transcripts was undertaken to establish common themes in the text and identify the expected external benefits of sustainability initiatives.

From this evidence, it is apparent that external benefits are linked to gaining new customers and achieving a competitive advantage, reducing waste and energy consumption, improving environmental performance, and improving the organisation's public image and stakeholder relations. These expected and achieved benefits are driving organisations to adopt sustainability practices as part of their operations.

Organisations expect both quantifiable and non-quantifiable benefits from implementing sustainability initiatives. The main achieved internal and external benefits as reported by environmental managers are shown in Table 5.6.

Table 5.6: Rank order of environmental managers' perceptions of achieved internal and external benefits of sustainability initiatives

Rank Order:	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo
Internal						
1. Improved employee engagement	Significant	Significant	Very significant	Moderately significant	Significant	Very significant
2. Providing a socially responsible workplace	Significant	Significant	Very significant	Moderately significant	Moderately significant	Very significant
3. Lower operating costs for products and services	Moderately significant	Very significant	Significant	Moderately significant	Significant	Very significant
4. Increased efficiency in our operations	Moderately significant	Significant	Very significant	Significant	Very significant	Very significant
5. Meeting the sustainability expectations of employees	Moderately significant	Significant	Significant	Moderately significant	Significant	Moderately significant
6. Improved ability to attract and retain new employees	Of little significance	Very significant	Significant	Of little significance	Moderately significant	Of little significance
External						
1. Better product / service offerings	NR	Very significant	Very significant	Significant	Significant	Very significant
2. Improved brand reputation	Moderately significant	Significant	Very significant	Very significant	Very significant	Very significant
3. Increased competitive advantage	NR	Significant	Significant	Significant	Very significant	Very significant
4. Development of a unique value proposition for clients	NR	Very significant	Significant	Significant	Significant	Significant
5. Meeting the sustainability expectation of clients	NR	Very significant	Significant	Significant	Significant	Significant
6. Exposure to new markets for our products and services	NR	Very significant	Significant	Significant	Moderately significant	Very significant
7. Improved perception of how well company is managed	Of little significance	Significant	Significant	Significant	Very significant	Very significant
8. Improved regulatory compliance	Significant	Moderately significant	Significant	Significant	Significant	Very significant
9. Meeting the sustainability expectations of the community	Significant	Significant	Significant	Significant	Significant	Significant
10. Enhanced stakeholder / investor relations	Moderately significant	Significant	Very significant	Moderately significant	Significant	Very significant
11. Enhanced reputation with all stakeholders	Moderately significant	Significant	Significant	Moderately significant	Very significant	Very significant
N =	1	1	1	1	1	1

Note: N = total number of respondents (environmental managers); NR = no response. The information in Table 5.6 is from the environmental management survey. The responses provided by the participants were averaged and rank ordered for the six organisations in the study.

The employment relations or 'people benefits' of environmental management are under researched in the mainstream literature. In this thesis, the reported employment relations benefits were improved employee engagement, meeting the sustainability expectations of employees, and providing a socially responsible workplace. The environmental managers ranked 'improved employee engagement' as the top internal benefit. In three cases managers considered this benefit 'significant' and in two cases 'very significant'. The Sustainability Communications Manager at UniversityOrg explained how the corporate-led sustainability initiatives contributed to employee engagement like this:

> *When we go into a building we are often the first time that staff members, the staff members we meet, encountered the university by which I mean the corporate university… To actually put a face on that and to get people to work to solve problems, which affect the whole organisation, in groups, together, is I think a hugely beneficial thing to do just for the community that it builds. When you look at a part of the university as a community that is working together on something and you try to implement programmes which get them to spend more time together not competing for research money, but actually working together on things that has a huge benefit improving the whole institution, improving peoples quality of life, improving peoples quality of work... Now whether or not you are doing it for the purposes of sustainability actually doesn't matter so much, but sustainability has given us an opportunity to implement that type of programme because actually getting people to work together like that is more effective than trying to control everything from the centre.*
> (Communications Manager, UniversityOrg, 2013.0707)

From this evidence, it is clear that employee engagement processes '*build*' a sense of shared goals and culture that encourages '*people to work together*'. In particular, it can be seen how employee engagement in carbon reduction initiatives encourages team working that potentially improves social relations by fostering a '*community*' and creates opportunities for shared learning and innovation. Moreover, at RailCo, environmental champions in the semi-skilled occupational groups suggested that working in groups towards a more sustainable workplace was 'rewarding' in terms of personal and professional development and job satisfaction.

Additional achieved internal benefits identified in Table 5.6 include waste reduction (for all sectors), cost savings from waste reduction/disposal (for all sectors), establishment and monitoring of energy efficiency (for all sectors) and transport infrastructure and incentives (for all sectors). Lower operating costs were ranked third by respondents. In four cases, environmental managers ranked lower operating costs as a 'significant' or 'very significant' internal benefit.

The respondents ranked 'increased competitive advantage' third in the list of external benefits. In four cases, this variable was considered either a 'significant' benefit' or a 'very significant' benefit. The Environment and CSR Manager at BusCo explained how the company's environmental performance contributed to their overall competitive advantage like this:

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The environmental performance of BusCo resulted in the commercial benefits of reduced fuel costs and improved brand reputation and customer satisfaction. Furthermore, particularly in the more carbon intensive energy and transport cases, respondents explained that improvements in their overall environmental performance also benefitted the local communities impacted by operations. Notwithstanding these clear benefits that can accrue from sustainability initiatives, organisations also face barriers to environmental sustainability change.

5.4   Barriers to Change

In each of the six case studies, managers were asked to assess the most important barriers to creating an environmentally sustainable workplace. Table 5.7 shows the top three internal barriers to change are lack of time and resources, lack of clarity of employees and lack of employee participation and involvement. In four cases respondents' considered 'lack of time and resources' to be a 'significant' internal barrier. In four cases respondents' considered 'lack of clarity among employees' and an absence of 'employee involvement' to be a 'significant' internal barriers. A striking feature of the list is that 'excessive financial constraints' is ranked ninth, while the human or 'social' dimensions are the most prevalent. Equally striking, given the union density in the case studies, is the managers' perception that 'lack of union participation' in the change process was ranked bottom of the list, with four cases reporting 'moderate influence'.

The barriers to creating sustainable workplaces are shown in Table 5.8. A content analysis of the interview transcripts was undertaken to identify barriers to workplace environmental sustainability. The findings presented in Tables 5.7 and 5.8 are discussed below.

Table 5.7: Rank order of managers' perceptions of barriers to the implementation of environmental sustainability initiatives

Rank Order:	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo
1. Lack of time and resources to focus on environmental issues	Significant	Significant	Significant	Moderately significant	Moderately significant	Significant
2. Lack of clarity among employees regarding environmental responsibility	Significant	Moderately significant	Significant	Significant	Moderately significant	Significant
3. Lack of employee involvement and participation	Significant	Moderately significant	Significant	Significant	Significant	Moderately significant
4. Lack of clarity among line-managers regarding environmental responsibility	Moderately significant	Significant	Significant	Moderately significant	Significant	Moderately significant
5. Insufficient training	Significant	Moderately significant	Significant	Moderately significant	Moderately significant	Significant
6. Organisation prioritising commercial needs above environmental concerns	Significant	Moderately significant	Significant	Moderately significant	Moderately significant	Significant
7. Lack of management commitment	Moderately significant	Moderately significant	Significant	Moderately significant	Moderately significant	Significant
8. Excessive corporate or organisational bureaucracy	Significant	Significant	Significant	Moderately significant	Moderately significant	Moderately significant
9. Excessive financial Constraints	Moderately significant	Significant	Moderately significant	Of little significance	Moderately significant	Moderately significant
10. Unclear leadership strategy and goals towards environmental issues	Moderately significant	Moderately significant	Significant	Moderately significant	Moderately significant	Significant
11. Unclear responsibility regarding who is in charge of environmental policy/practice	Significant	Moderately significant	Significant	Moderately significant	Moderately significant	Moderately significant
12. Insufficient incentives to encourage pro-environmental behaviour	Moderately significant	Moderately significant	Moderately significant	Moderately significant	Of little significance	Moderately significant
13. Lack of organisational concern for sustainability	Moderately significant	Moderately significant	Moderately significant	Of little significance	Moderately significant	Moderately significant
14. Lack of availability of skilled staff	Moderately significant	Of little significance	Significant	Moderately significant	Of little significance	Moderately significant
15. Lack of trade union involvement and participation	NR	Moderately significant	Moderately significant	Moderately significant	Moderately significant	Of little significance
N =	6	6	8	9	9	6

Note: n = total number of respondents (environmental managers, HR managers, and managers); NR = no response. The information in Table 5.7 is from the environmental management, HR and management surveys. The responses provided by the participants were averaged and rank ordered for the six organisations in the study.

Table 5.8: Barriers to creating sustainable workplaces

Barrier	Descriptor	Example extract
Lack of agency or control	The perception that the individual is unable to change the situation	'In a lot of the offices the lighting is on PIR sensors so you can't control that, you can't control the air conditioning, there is so much you can't control.' (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)
Lack of leadership and line-manager support	A process of social influence to engage the support of others towards sustainability	'I think a lot of it can be seen as a tick box exercise…I think they really need to work at it, and for that we need support from senior management, and from the Chief Executive of the council it should come from them to provide support.' (Energy Awareness Officer, CouncilCo, 2013.08.20)
Lack of engagement from employees	Employees demonstrating little or no interest in behaving sustainably	'From the survey the comments that we have had is that some people are not interested at all. They say they have no time, they are not interested in the subject, they don't care, we have had messages like that and those people will be really hard to change.' (Energy Awareness Officer, CouncilCo, 2013.08.20)
Lack gainsharing or savings shared	Employees do not benefit financially from environmental performance improvements	'If they engaged more and realised instead of saying we are taking all the pie, say they just said we are quite happy taking ¾ of the pie then they would have got ¾ of the pie, now they are not getting anything… So they spent all this money on DAS putting it in all of the trains and it is just getting tripped and nobody is abiding by it.' (Train Driver and Union Representative, RailCo, 2013.07.31)
Cost	Sustainable options often viewed as more expensive	'I think we are regarded as a high cost travel option albeit a low environmental impact. The cost per mile to travel by train is still viewed as being high.' (Head of Environmental Compliance and Sustainability, RailCo, 2013.06.02)
Nature of work	Perception that job requirements may reduce ability to behave in accordance with environmental values	'For people in the industry sustainability and sensitivity of what they did was not as important as the engineering concept of making the thing work better.' (Wayeleave Officer, EnergyCo, 2014.04.07)
Individual factors	Individual and personal motivations and barriers to change	'If it's in any way inconvenient for the people who have to do something that is the barrier… it is when there is a little bit of effort involved or inconvenient it is getting past that.' (Deputy Director of Human Resources, UniversityOrg, 2013.08.22)
Social or 'group' factors	Social influences which act on people when operating in groups (social norms, cultural conventions, and shared understandings)	'The IT department which has a very much service led traditional business type approach… where people's time is very specifically dedicated to different activities in quite an intensive way. They feel that there is nothing I can do on this and unless someone makes it my job to come and do this extra thing… then maybe I might listen, but right now I don't care.' (Communications Manager, UniversityOrg, 2013.07.16)
Material factors	Infrastructure, technology or other physical aspects of the built environment in which people work including 'softer infrastructure' of policies, and schedules	'Nobody has their own desks they are "hot desking" so you can't have plants on your desk there are no plants it is quite impersonal… It doesn't feel very environmentally aware…these kinds of offices the air quality can be quite poor.' (Green Party Councillor, CouncilOrg, 2013.10.23)

Note: A content analysis of the interview transcripts was undertaken to establish common themes in the text and identify barriers to creating an environmentally sustainable workplace.

The quantitative data in Table 5.7 were supported by qualitative evidence. When interviewed participants reaffirmed that cost, lack of time and resources were significant barriers to achieving an environmentally sustainable workplace. For example, commenting on the impact of recent budget cuts and the perceived lack of time and resources available at CouncilOrg the Green Party Councillor explained:

> We are down to three men and a dog in some places and it is so short-handed particularly at the lower-management levels. They probably would feel they hadn't got time for anything else. (Green Party Councillor, CouncilOrg, 2013.10.23)

Similarly, the Head of Human Resources at BusCo highlighted the significance of increased capital cost as a potential barrier to sustainability strategy like this:

> I think that is the biggest challenge with sustainability is that at the end of the day we will be judged on our bottom-line not on our carbon output. (Head of Human Resources, BusCo, 2013.08.21)

These findings suggest that *industry barriers* such as increased capital cost and *organisational barriers* including, lack of time and resources can function as 'formidable barriers' to obstruct management efforts to improve environmental performance (emphasis added).

Other common barriers were a lack of leadership and line-manager support, lack of employee participation, insufficient training, and employee apathy. Table 5.7 shows lack of management commitment ranked seventh. All of the cases reported that a lack of clarity among line-managers regarding whether they are responsible for environmental sustainability was 'moderately significant' or 'significant'. The qualitative evidence also affirms the managers' perception that lack of leadership and line-manager support were significant barriers to environmental sustainability. For example, commenting on social or 'group' factors such as the lack of line-manager support at RailCo, the Station Attendant and Environmental Champion explained:

> *The (line) managers are not as committed as they should be. Although my managers are not as committed as I want them to be, but they are still giving me enough information just to tie me along. Then I need to go to the environmental team and find if I need anything else.* (Station Grade B Platform/ Booking office, RailCo, 2013.07.29)

Similarly, from a management perspective, the Station Manager at the North Clyde station explained:

> *Getting the champions released can be a barrier so I would like to see that that was a given rather than best effort. It relies on front line managers ensuring we have resource to put into it, so plenty of notice so that we have time to resource it.* (Station Manager B, RailCo, 2013.08.05)

The evidence emphasises the critical role of line managers and the importance of employee engagement for enacting and embedding low-carbon behaviours inside the workplace. This suggests that line managers are critical to embedding pro-environmental practices because they commonly act as the closest senior role models to employees and also often influence important 'material factors' such as the immediate work schedules of employees.

In addition to the managers' perceived barriers to effective environmental management in Table 5.7 and the identified barriers to creating sustainable workplaces in Table 5.8, other barriers that were found to be significant: including, capital cost (high upfront expense); uncertain future benefits of environmental actions; and difficulty of measuring return on investment.

5.4.1 Internal barriers

Cost, Time and Resources Constraints

Costs and time constraints were seen as key barriers to improving environmental performance in this thesis. For example, cost concerns were seen as major barrier at both HealthOrg and the BusCo. Incurring costs are even more significant for small and medium sized organisations, which have generally less time, fewer specialists and limited resources available. HealthOrg Centre had encountered this problem, as it has a small overall operating budget and did not have a dedicated environmental management budget. One interviewee explained the cost barriers like this:

> We are non-profit oriented. It will affect how much I can spend on making sure I have a more environmentally friendly conference centre. For example, this building is from the 1970s and it does cover the building regulations of the 1970s for roof insulation, but not for the standards of today. I would love to get rid of the insulation and put in a proper one. I can't. I don't have the money. I would love to do water harvesting, get solar power on the roof, put a wind turbine and be self-sufficient, but it is all about the funds. (Conference Coordinator, Environmental and Equality Lead, HealthOrg, 2013.07.09)

The absence of a dedicated environmental budget and cost constraints at HealthOrg Centre constrained their ability to make investments in sustainable low-carbon initiatives. At BusCo costs were also seen as a significant barrier to sustainability strategy. For example, in an effort to purchase more fuel efficient hybrid buses, the bus company was able to access dedicated government funding through the Scottish Government's 'Green Bus Fund' to help cover the additional capital expenditure costs (CAPX). However, the additional cost of purchasing and maintaining hybrid buses was reported to be increasingly 'prohibitively expensive', and coupled with the high investment there was the additional uncertainty about future government support for the green bus fund. The role of the Scottish government and the high capital expenditure costs are paramount in influencing corporate sustainability strategy. The environmental manager articulated the argument this way:

> At the moment we are still at the time where hybrids are very expensive so there is a very substantial 'CAPX' - capital expenditure - at the start of the project. It is more than offset by the fuel savings and enhanced fuel rebate over the life of the bus, but the increased CAPX cost is prohibitively expensive when it comes to going out and buying large batches of buses… This is the problem. The technology isn't becoming more affordable. The Scottish Government introduced The Green Bus Fund in 2010 and has now gone through three rounds of funding. The fund was designed to bridge the gap between the cost of a conventional and a low-carbon vehicle... The concept behind the Green Bus Fun was that as volume drove the market the cost of the hybrid versus diesel differential would cut so they could cut the difference of the grant as the market became more open and affordable. That is not happening. The differential costs between a hybrid and a conventional diesel is still £120K in fact it has gone up slightly. So the situation that we find ourselves in 2013, is one where the grant is starting to be cut. The financial model doesn't yet add up to buy them without grant assistance, there is no continuity or reliability or reassurance about the continuity of Enhanced Fuel DT rebate, but the cost of hybrid isn't coming down… It is not true to say that the technology is becoming cheaper. All that is happening is the incentives to buy the technology, which was designed to help the price come down, are being withdrawn without the price having changing. So buying a hybrid is becoming less and less attractive as the years go by. (Environmental and CSR Manager, BusCo, 2013.08.21)

From this evidence it is clear that bridge funding from the Scottish Government is critical to support the investment in electric low-carbon vehicles. The Green Bus Fund has invested over £7.7 million to support the deployment of 90 hybrid electric buses across Scotland (Transport Scotland, 2013). The environmental manager reported in August 2013 that in the third round of government funding the bus company purchased 20 out of the 24 buses and no other large operator purchased any hybrid vehicles. Institutional forces such as increased competition and lack of government funds were seen to undermine the business case of purchasing hybrid buses. Therefore, it was argued that the cost of operating hybrid buses was becoming less attractive over time.

Leadership Constraints

In all of the case studies the human dimension such as leadership and employee participation were key elements of the change process. However, at CouncilOrg several interviewees complained about the lack of senior management support for sustainability, and this acted as a barrier to organisational change. The Green Party Councillor described the importance of leadership and top management support:

> *I think it is essential that we talk about bottom-up and grass roots and that, but actually for things like this you need to set it from the top that these things are an expectation, and it is something that is a given without further discussion… It is a very hierarchal place.* (Green Party Councillor CouncilOrg, 2013.10.23)

This would suggest that top management support is important both in terms of setting the overall policy direction of the council and, crucially, providing additional time and resources to encourage employees to engage in low-carbon behaviours. Similarly, commenting on the absence of top management participation and resources to support the corporate-led energy awareness campaign, the Energy Officer at CouncilOrg explained:

> *The Energy Awareness Officer, she is one person within our energy team. I always felt because of the size of the council and the organisation you should have a dedicated energy awareness team. I have always just felt there have never been enough resources applied to it because of the size of the organisation.* (Energy Officer, CouncilOrg, 2013.08.18)

This highlights the crucial role of senior management in planning and resource allocation decisions. Furthermore, it illustrates how resource allocation can impact employees' perception of management's commitment to sustainability initiatives.

The CouncilOrg case illustrates the absence of change leadership. One council officer explained the lack of leadership like this:

> *Senior managers at a director level and also senior management within services I think could be doing more to show that they support it. Just even like giving up their car spaces. They could join the cycle to work scheme, but they don't so I think that is kind of lacking…I think staff say a lot, "why should I do it if they don't". So if they are still allowed to*

drive to work why should you try and encourage me to give up my car? ... We recently held a presentation session to update the Councillors on what we do and there was a variable turnout. We don't receive the support from them that we should… it was actually the Green Councillor that requested the presentation. The invitation was sent to all elected members and there was a very low turnout and even the ones that came did not seem particularly interested… I think they really need to work at it, and for that we need support from senior management, and from the Chief Executive of the council it should come from them to provide support. (Energy Awareness Officer, CouncilOrg, 2013.08.20)

Research participants maintained that leaders could better support sustainability objectives by at an individual-level more actively engaging in environmental issues at work, improving communication on the need to change and sharing goals and responsibilities with workers. Some mentioned using rewards and recognition to change and reinforce desired decarbonising behaviour. Moreover, it was argued that there was a need to increase the overall resource allocation and budget for sustainability-related activities with the council. For example, the HR Advisor at CouncilOrg argued:

There has to be time and resources put into it to almost kind of get people kick started into thinking in an environmental and sustainable way…It is just getting them almost switched over to that way of thinking initially… So top-level management is very important to take the time and put the resources into it. (Assistant HR Advisor, CouncilOrg, 2013.08.13)

It was suggested by other respondents that lack of time and resources dedicated to support sustainability was a significant barrier at CouncilCo. Moreover, they argued that individual council leaders and senior managers could do more to visibly demonstrate to employees their commitment by "*being seen to be doing the right thing*" and participating in low-carbon behaviours such as cycling to work, for example.

Union Engagement Constraints

While employee involvement has focused prominently in mainstream change management theory, union participation has received less attention. As discussed above, in most of the case studies investigated, lack of union participation was generally not seen as a major barrier to the implementation process of sustainability initiatives (see Table 5.7). The Head of Human Resources at BusCo explained the issue of non-union involvement like this:

I would like to engage them in broader issues, but they are not there… To try to get them onto a more sophisticated agenda around green issues and sustainability I wouldn't waste my time if I am honest. (Head of Human Resources, BusCo, 2013.08.21)

This would suggest that union's lack interest - '*they are not there*' – was a barrier. A Union Representative in RailCo also confirmed that lack of union engagement and 'gainsharing' was a significant barrier to the implementation of an integrated driver advisory and energy metering (DAS-EM) system. The potential for unions to act as both barriers and facilitators to the implementation of environmental practices is further examined in Chapter 7.

5.4.2 External Barriers

Regulation

Regulation can be an important driver of sustainability initiatives but it can also act as a barrier. In the public sector, purchasing decisions are influenced by European Union law, which specifies that contracts above a certain level be advertised in the Official Journal of the European Union. For example, at HealthOrg, respondents indicated that procurement legislation was seen as a restriction to sustainable supply chain management. The Head of the Health Centre explained that efforts were undertaken to research the relevant legislation in order to gain a better understanding of the issue. Although existing procurement contracts were cited as a barrier, managers in HealthOrg did make efforts when possible to use local suppliers for food and catering.

Industry Specific Barriers

Several case organisations encountered regulatory barriers that represent phenomena confined to a specific industry. Some barriers appear difficult to overcome. In the public sector cases, for example, at HealthOrg and CouncilOrg, existing procurement contracts and EU procurement law, with environmental issues being of secondary importance, was seen to restrict purchasing decisions.

In EnergyCo, as a supply network operator is legally obliged to provide customers with the 'least cost option' for a new electrical connection. This, according to respondents, creates a significant barrier to integrating environmental impact considerations into engineering and construction. The 'least cost option' requirement explained EnergyCo's Wayleave Officer:

> *It can throw us a little bit in conflict with what they* (the customer) *would like to see as a sensitive resolution in terms of sustainability and environment impact'* arguing that '*it is part of our legal obligation, on the one hand, and the company's perspective on sustainability and environmental impact, on the other.* (Wayleave Officer, EnergyCo, 2014.04.27)

The company's legal obligation to provide customers with the 'least cost option' apparently created tensions around the notion of 'share of responsibility' for both identifying environmentally sensitive areas of concern and paying for the additional capital expenditure costs.

At RailCo, the Franchise Agreement functioned to limit the company's influence over capital expenditure for infrastructure. Both environmental managers and trade union representatives at RailCo considered the Franchise Agreement to be a key barrier to environmental sustainability in

the rail industry. Specifically, the separate business structure for (a) the construction, and (b) the maintenance of stations and depots was a significant barrier to improving energy efficiency and overall environmental performance. Commenting on the impact of the Franchise Agreement on capital investment in infrastructure, RailCo's Head of Environmental Compliance and Sustainability explained the practice of full-life costing:

> *We believe full-life costing is the right way to do it.... If we get the lowest full life cost, then that should drive down the price of a ticket and encourage more people to use the services. If they do that then the clear environmental benefit of that is that the emission per customer/ mile reduces. The bottom line is that we improve environmentally, but it also helps us demonstrate the modal shift. So getting someone out of a 150gms per km car into the fraction of that by train would help to meet the national targets. The more costs we rip out of the industry by doing things like full life costing. If the full life cost of an asset of 20 years is £1million and we could get it down to £800k. It's the distribution of that cost that may be different. The operation fees might be a lot lower and the capital costs would be higher. The company, we would get the benefit of the lower operations costs, but Network Rail would have the penalty of the higher capital cost, but everybody suffers we are running a public service and that public service bears the cost of the extra £ 200k over the life of that asset which is obviously going to have an impact on ticket prices. It's about trying to rip the unnecessary cost out of it. And the big barrier.... is the replacement of the assets and the operation of the assets are two separate legal entities. They are two separate sets of accounts. So bring them together that's where the benefits could be.* (Head of Environmental Compliance and Sustainability, RailCo, 2013.06.02)

In the view of this respondent, it is apparent that the Franchise Agreement is a major barrier to the company's environmental management. Under the Franchise Agreement RailCo does not own the assets it operates and therefore limits investment in infrastructure that could reduce energy cost and improve its carbon footprint. Specifically, because RailCo incurs the operational costs for buildings and Network Rail incurs the capital costs for investment in infrastructure, any financial savings from improved energy efficiency of buildings, for example, would ultimately benefit RailCo. This barrier to sustainability indicates the critical role of government in regulating the rail industry in Scotland and the potential problems associated with the existing private ownership structure.

5.5   Summary of Drivers, Stakeholders, Benefits and Barriers

This chapter has examined what motivates managers and stakeholders in Scotland to engage in sustainability action. It has identified some of the key drivers and barriers to creating an environmentally sustainable organisation. It focused on identifying the drivers of sustainability including organisational values, regulation, customers, society and competition. Its purpose is to draw attention to the key drivers of sustainability initiatives in each of the case study organisations, to consider the role of stakeholders who influence sustainability strategy, to examine the benefits of moving to a sustainable workplace and to identify the internal and external barriers to change.

With regards to drivers of change, all the evidence points to a variety of internal and external drivers for implementing sustainability initiatives. A feature that all organisations share is that meeting regulatory compliance requirements seems to underpin the different sustainability initiatives, and is the context for other observable drivers. The findings demonstrate that some of the most important drivers are managing organisational risk, reduced costs resource efficiency factors, environmental values of employees, and meeting customer demand and green marketing. The qualitative evidence emphasises the important role of senior managers in promoting CSR and pro-active support for low- carbon behaviour and agency in the workplace. The evidence suggests that environmental change agents would benefit from being aware of the external influences of regulation, customers, competitors and society more broadly.

The findings affirm that government, customers and workers are important stakeholders. The evidence also demonstrates that unions are not considered a significant driver of workplace sustainability measures. However, in the transport and energy sector cases, respondents agreed that unions had the potential to pro-actively contribute to sustainability initiatives. The findings also suggest that increased collaboration with suppliers and local communities could be part of a comprehensive sustainability strategy.

Finally, this chapter identifies both the internal organisational barriers and external regulation and industry-specific barriers. A feature that all six cases share is that lack of time and resources and employee involvement and participation were seen as significant barriers to workplace environmental sustainability. The other salient point to emerge from the analysis is that lack of leadership, line-manager support, lack of employee participation, insufficient training and employee apathy acted as barriers to change. The next chapter examines the role of organisational culture, leadership and a combination of determinate HR practices in promoting environmental sustainability change.

Chapter 6

Embedding Sustainability: Environmental Leadership, Organisational Culture and Human Resource Management

The preceding chapter examined in detail the internal and external drivers for sustainability and the barriers to change. The evidence identified the absence of environmental leadership as a critical barrier to change. This is a significant finding given that in the more holistic approaches to strategic HRM, 'questions of leadership, culture, and managerial behavior are commonly seen to fall within the HR manager's area of activity with growing roles in the management of change' (Purcell and Kinnie, 2008: 543). This chapter draws attention to the importance of leadership in efforts to encourage and support employee pro-environmental behaviours and environmental management. It seeks to explore how leadership, culture and HR practices influence environmental sustainability in the workplace. Specifically, it explores (1) environmental leadership and organisational culture and climate and, (2) the relationship between workplace environmental sustainability and five core HR activities – recruitment, selection, reward, appraisal and training.

6.1 Leadership and Organisational Culture and Climate

The quantitative data suggests that a shift towards sustainability necessities environmental leadership behaviour, the creation of targets, identifiable responsibilities, employee engagement, social and ethical considerations, the identification and support for 'green' champions as well as supportive behaviour for line managers. Table 6.1 identifies the main facilitators of environmental management in the study which are averaged and rank ordered.

Table 6.1: Rank order of managers' perceptions of facilitators to pro-environmental practices

Rank Order:	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo
1. Senior management commitment	Very Important	Very Important	Very Important	Very Important	Very Important	Important
2. Clear performance indicators including environmental targets	Very Important	Important	Very Important	Important	Very Important	Important
3. Employee engagement and commitment	Very Important	Important	Very Important	Important	Very Important	Important
4. Induction programme	Very Important	Important	Important	Important	Very Important	Important
5. Dedicated resources for development/ implementation of environmental initiatives	Very Important	Moderately Important	Important	Very Important	Very Important	Important
6. Employee environmental "green" champion	Very Important	Very Important	Very Important	Important	Very Important	Moderately Important
7. Managers' support and openness to pro-environmental practices	Very Important	Important	Very Important	Important	Important	Important
8. Full-time sustainability office or environmental manager	Very Important	Moderately Important	Very Important	Very Important	Very Important	Moderately Important
9. Environmental policy and targets	Very Important	Important	Important	Very Important	Very Important	Important
10. Set up of "green team" to champion environmental issues	Very Important	Moderately Important	Important	Important	Important	Moderately Important
11. Managers factoring environmental concerns into decision making	Important	Important	Very Important	Important	Very Important	Important
12. Technology (e.g., Green IT, motion sensors so that lights turn off)	Very Important	Important	Important	Important	Very Important	Moderately Important
13. Informal encouragement by line managers	Very Important	Moderately Important	Important	Important	Very Important	Moderately Important
14. Training programme	Very Important	Moderately Important	Important	Important	Important	Moderately Important
15. Incentives or reward programmes to encourage pro-environmental behaviour	Important	Moderately Important	Important	Moderately Important	Important	Moderately Important
16. Trade union involvement and participation	NR	Moderately Important	Moderately Important	Important	Important	Of little importance Important
17. Penalties for non-compliance	Moderately Important	Moderately Important	Moderately Important	Moderately Important	Very Important	Moderately Important
N =	6	6	8	9	9	6

Note: N = total number of respondents (environmental managers, HR managers, and managers); NR = no response. The responses provided by the participants were averaged and rank ordered for the six organisations in the study.

In addition to the managers' perceived facilitators to pro-environmental practices in Table 6.1, other facilitators were found to be important: including, encouragement via internal awareness-raising campaigns/publicity (e.g. series of lectures/seminars/debates for employees, posters); engagement workshops for employees; 'green' recruitment and selection criterion that seeks to identify potential employees' attitudes (e.g., commitment to decarbonising the workplace); reward programmes; organisation-based incentives; and leadership that promotes workplace pro-environmental practices.

These results suggest that perceptions of senior management commitment are critical in successful change management. In four cases 'senior management commitment' was considered 'very important' and in two cases it was considered 'important'. A feature that all six case studies share is that effective environmental practices were facilitated by senior management commitment, the introduction of clear performance indicators including environmental targets, and developing social processes that encourages employee engagement and commitment in the change. In all six case studies the human dimension, such as manager commitment and employee engagement, was a key element of the development and implementation process of sustainability initiatives. For example, commenting on the importance of employee engagement at EnergyCo, a manager reported, *'By pushing environmental issues up the priority list … managers and employees feel more comfortable to spend time on them - the more time spent on the issues, the more likely people will be to take them seriously and implement changes in their day-to-day behaviour'* (Anonymous, Manager Survey). The findings demonstrate the crucial role of employee engagement in the change process.

The results further underscore the importance of senior management commitment, having clear performance indicators and engaging employees. For example, at RailCo the stations are evaluated with a 'traffic-light' reporting system that is based on performance indicators reflecting levels of environmental risk for energy, gas and water. Environmental information is then cascaded down by managers and communicated to employees at weekly team briefing meetings.

Table 6.1 shows that environmental champions, full-time sustainability officers, and green teams ranked sixth, eighth and tenth respectively. The majority of managers indicated that both environmental champions and green teams were either 'very important' or 'important' facilitators. As discussed in more detail in Chapter 7, 'Eco-champions' were used extensively at RailCo. Sustainability-oriented or 'green' committees were found at all three public sector cases. Furthermore, in all of the cases full-time sustainability officers (environmental managers) were

seen as a vital component of a comprehensive sustainability strategy. In most of the cases full-time sustainability officers played an important role in coordinating and resourcing the work of employee environmental champions and green teams.

A relevant finding arising from the results is that participants perceived training and development to be a significant facilitator to pro-environmental behaviour. In four of the six case studies the majority of managers considered that training was either 'very important' or 'important'. At RailCo and BusCo all the drivers received formal environmental training. Specifically, drivers received training on energy efficient driving or 'eco-driving', a practice to encourage more fuel-efficient driving behaviour. Similarly, in all six of the cases respondents indicated that sustainability dimensions were either informally or formally integrated into aspects of training. For example, at RailCo, HealthCo and EnergyCo all new employees received formal environmental training through an induction programme. At CouncilOrg, HealthOrg and EnergyCo online environmental training modules had been designed for managers and other employees. As discussed in the proceeding chapter, a principal finding from this thesis is that in four of the six cases investigated union involvement and participation was generally not seen as a key facilitator for pro-environmental behaviours and practices.

Table 6.2 shows a summary of employees' perceptions of managers' environmental leadership. From the evidence, it is clear that in all three cases examined the majority of employees reported that managers were 'good' at demonstrating environmental leadership and encouraging a green pro-environmental culture.

Table 6.2: Employees' perceptions of managers' environmental leadership

	Employees		
	HealthOrg	RailCo	EnergyCo
Demonstrating leadership in environmental management	Good	Good	Good
Communicating with employees about environmental management	Good	Good	Poor
Encouraging a "green" organisational culture	Good	Good	Good
Involving employees in environmental management decision making	Good	Good	Good
Keeping everyone up-to-date about proposed environmental management changes at work	Good	Good	Poor
Responding to suggestions about environmental management from employees	Good	Good	Good
N =	12	34	14

Note: N = total number of respondents (employees). The information in Table 6.2 is from the employee survey. The responses provided by the participants were averaged for the three organisations in the study. It is important to note that employee surveys were distributed at three of the six cases.

Further, in all three cases examined the majority of employees reported that managers were 'good' at both involving employees in environmental management decision making and responding to their suggestion about environmental issues. The Employee Engagement Manager at RailCo, for example, explained the importance of leadership and line management commitment this way:

> *It is very much my job, within HR, working with managers to try to facilitate more use of conversations, formally and informally. It is also about recognition we are really encouraging our managers where they see great behaviour to reinforce things, it could be to do with things that impact on the environment or work with communities or charities.* (Employee Engagement Manager, RailCo 2013.06.02)

The evidence supports the view that employees who felt that their supervisors were supportive of environmental actions were more likely to try sustainability initiatives than those who did not feel their supervisors used supportive behaviour.

In contrast, at EnergyCo the majority of respondents reported that their managers were 'poor' at both communicating with employees and keeping everyone up-to-date about proposed environmental management changes. It is important to note that EnergyCo's powerline technicians participated in mandatory weekly health, safety and environment (HSE) meetings. Yet, in spite this, the evidence suggests that environmental issues were not always communicated

and workers believed that management considered environmental issues a secondary priority to health and safety. The Fault Dispatch Officer at EnergyCo explained it like this:

> *The way our environmental stuff is brought to the guys is through the safety briefs … but I think the focus is more on the safety as opposed to the environmental side of things. So I do not think it is as effective as safety because it is just on the tail end of it … at the moment it is lumped in with safety … For me personally I am thinking more about safety and the environment is a second thought …We will have a discussion about around the safety aspect but we never actually say well, "what could have been the potential outcome to the environment for this?"…Without the managers rolling managers rolling it out to the staff it is never going to be effective … we will have the safety brief and then potentially you might not see them again for the rest of the week … So I would say without the managers buying into it and briefing it out then it would not really get rolled out down the line.* (Fault Dispatch Officer at EnergyCo, 2014.04.27)

This is significant as it highlights the role of leaders in promoting environmental sustainability. It is unsurprising that successful implementation of low-carbon practices relies on pro-active leadership behaviours, including, for example, buildings networks of environmental change agents or champions, and the full cooperation of line mangers.

Front line managers are seen to be critical to the overall success of an organisation's environmental management strategy. The Head of Environmental Compliance and Sustainability at RailCo acknowledged that first-line managers (FLM) could either facilitate or constrain environmental champions' like this:

> *We have a network of environmental champions and on the face of it you might get feedback that everything is rosy with the champions, but for example a manager held a forum for the champions and there were a couple of noticeable absentees. When we checked with them we found that they had either not been informed about the meeting from their line managers, or they had been blocked in going. So we still have conflict with the day job, the operation of the train that is obviously fairly tight and fraught in developing a green culture and developing the environmental awareness that we seek … There is a level below senior management that are maybe skeptical or genuinely under pressure to deliver certain performance results and I feel that we are sacrificed.* (Head of Environmental Compliance and Sustainability, RailCo, 2013.06.02)

This evidence suggests that it is the responsibility of FLMs to communicate with employees and approve release time so that environmental champions may participate in environmental management forums. This extract also highlights how traditional performance pressures can squeeze out environmental concerns in the workplace.

6.1.1 Environmental Organisational Culture and Climate

Shifting to a sustainable workplace involves changing individual and group behaviours. Pro-environmental behaviours include reducing waste, recycling and encouraging low-carbon emission modes of transport. Table 6.3 shows a summary of respondents' perceptions of organisational climate statements averaged and ranked ordered. In three out of the six cases, managers 'strongly agreed' that their organisation encouraged energy conservation, waste reduction and recycling and alternative forms of transportation.

Table 6.3: Rank order of managers' and employees' perceptions of organisational climate statements

Rank Order:	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
1. Encourages energy conservation	Strongly agree	Agree	Agree	Neutral	Strongly agree	Strongly agree	Agree	Agree	Agree
2. Encourages waste reduction and recycling	Agree	Agree	Agree	Agree	Strongly agree	Agree	Strongly agree	Agree	Agree
3. Strives for a reputation for being "green"	Strongly agree	Agree	Agree	Agree	Agree	Agree	Strongly agree	Agree	Agree
4. Committed to protecting the environment	Strongly agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree
5. Encourages low-carbon forms of transportation	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree
6. Efforts made to be more environmentally friendly	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Neutral
7. Encourages water conservation	Neutral	Agree	Agree	Neutral	Strongly agree	Agree	Agree	Agree	Neutral
8. Managers encourage pro-environmental behaviour amongst employees	Strongly Agree	Agree	Neutral	Neutral	Agree	Agree	Agree	Agree	Neutral
9. Operates consistent with its external "green" brand	Agree	Agree	Neutral	Agree	Neutral	Neutral	Agree	Agree	Neutral
10. Managers encourage EIP in environmental decision-making	Agree	Agree	Neutral	Neutral	N/A	Neutral	Agree	Agree	Neutral
11. Managers respond to environmental suggestions from employees	Agree	Agree	Neutral	Neutral	N/A	Neutral	Agree	Agree	Neutral
12. Employees understand environmental responsibilities	Neutral	Neutral	Neutral	Neutral	Agree	Agree	Agree	Agree	Agree
13. Raises employee awareness about climate change	Agree	Agree	Neutral	Neutral	Agree	Neutral	Agree	Neutral	Neutral
14. Environment concerns get squeezed by other priorities	Agree	Neutral	Agree	Neutral	Neutral	Neutral	Neutral	Neutral	Agree
15. Rewards WPEB	Disagree	Neutral	Agree	Disagree	Agree	Agree	Neutral	Neutral	Neutral
16. Appraisal system linked to WPEB	Disagree	Disagree	Disagree	Disagree	Neutral	Neutral	Disagree	Neutral	Neutral
N =	4	5	6	8	8	4	12	26	14

Note: N = total number of respondents (environmental managers, HR managers, managers and employees). The responses provided by the participants were averaged and rank ordered for the six organisations in the study.

In three out of the six cases both groups of managers and employees were in agreement that managers encourage pro-environmental behaviours amongst employees, respond positively to environmental suggestions from employees and encourage employee participation in environmental decision-making. However, a pattern emerges of moderate agreement with statement about managers' behaviour. For example, in three cases both managers and employees indicated 'neutral' to the question that managers both encourage employee participation in environmental decision-making and respond to environmental suggestions from employees. A similar pattern emerges of moderate agreement with the statement about employee behaviour. In four of the six cases managers indicated 'neutral' to the question that employees understand their environmental responsibilities. This seems to be particularly important given that employee involvement and participation (EIP) is considered to be a key facilitator, and EIP was also reported as a key barrier (see Table 5.8).

The evidence showed that there were differences between managers' and employees' perceptions on whether their organisation used rewards and performance appraisal systems to encourage pro-environmental behaviours. In three of the cases managers 'agreed' that their organisation visibly rewards pro-environmental behaviours, while employees indicated 'neutral'. In four cases managers 'disagreed' when asked whether their organisation linked performance appraisal to pro-environmental behaviours.

Explaining the extent to which environmental sustainability is embedded within workplace practices, the Sustainability Engagement Manager at UniversityOrg put it like this:

> *In terms of culture, it is the fact that you are looking at people values and you are not just looking at values but how they display those values and giving them the authority to actually say, "yeah you know what I do collect all the glass in my office"… Rather than them sitting there thinking, "god I wish someone would do the glass recycling around here". There is an aspect of empowerment, but there is also an aspect of creating a culture where that is socially normal.*
> (Sustainability Engagement Manager, UniversityOrg, 2013.07.21)

This is significant, as this manager helps explain the primacy of culture. Organisational culture can shape employees' behaviour by '*creating a culture where [recycling] is socially normal*'. In that sense, organisational culture aims to increase workers' commitment to organisational goals; to motivate workers; and as an employee involvement process. One manager at UniversityOrg did, however, suggest that although the goals and values of environmental sustainability may be embedded in the institution's policies and procedures, the extent to which these values modified employees' attitudes and ultimately work practices is suspect.

Case study organisations attempted to overcome the barriers to change by developing meaningful ways to communicate pro-environmental values and the need for engagement. Both EnergyCo and RailCo recognised that they have particularly target-driven cultures, so many of their employees responded well to values embedded in local level goals. The Employee Engagement Manager at EnergyCo explained it like this:

> *Safety is our core value and part of the fibre of this company, in order to increase the environmental management (which we are good at already) we would need to make it important to everyone, relevant and every day.* (Employee Engagement Manager, EnergyCo, 2014.04.27)

Energy savings and carbon reduction targets appeared to be readily incorporated in EnergyCo's safety culture - its *'fibre'*. This served to make corporate sustainability targets appear more 'realistic' and relevant for employees by framing them within a local context. For example, the Station Aid and Environmental Champion at RailCo bluntly commented on the difficulties of transmitting low-carbon ideas to other employees: '*when we go to pass it on we get hit with a brick wall*' (2013.07.29). Hence, management espoused values might not be widely shared nor strongly held by most organisational members.

6.1.2 Environmental Organisational Leadership

Table 6.4 shows managers' and employees' ratings of interest in environmental management issues. With regard to managers' rating of interest, the results in Table 6.4 indicate that none responded 'Not at all interested' and most indicated that they were "moderately" interested. Unsurprisingly, perhaps, seven respondents at UniversityOrg recorded they were 'extremely interested'. With regard to workers' ratings, the results are more dispersed but the majority was 'moderately' or 'extremely' interested in environmental management issues. One possible explanation for the reported high levels of interest is that people who hold extreme positions on issues or are interested in the general subject matter of a survey are more likely to respond favourably to the set questions. In the case of UniversityOrg and RailCo, the majority of those responding were managers with responsibility for sustainability engagement. Thus, it is unsurprising that these managers would report both higher levels of interest and awareness of environmental management issues.

Table 6.4: Managers' and employees' ratings of interest in environmental management issues

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Not at all interested	0	0	0	0	0	0	1	0	0
Slightly interested	0	0	0	0	0	0	3	3	2
Somewhat interested	0	2	0	1	1	0	4	7	6
Moderately interested	2	1	1	3	2	1	2	11	4
Extremely interested	1	1	7	3	4	2	2	10	2
N =	3	4	8	7	7	3	12	31	14

Note: N = total number of respondents (managers and employees). The information in Table 6.4 is from the management and employee surveys.

The employees' level of environmental awareness is one important predictor of adoption and success of sustainability initiatives. Table 6.5 shows that in four out of six cases there was only 'moderate' agreement with the statement about employee awareness about climate change. In EnergyCo both managers and employees indicated 'neutral' support in their organisation for raising employee awareness about climate change. The results shown in Table 6.5 indicate that in four of the six case studies the majority of respondents indicated that they were 'moderately interested' or 'extremely interested' in environmental management issues. At RailCo and UniversityOrg the majority of respondents reported that they were 'extremely interested'.

Table 6.5: Managers' and employees' ratings of awareness of environmental management issues

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Not at all aware	0	0	0	0	0	0	0	0	0
Slightly aware	0	0	0	1	0	0	0	4	2
Somewhat aware	0	0	2	2	0	0	1	7	2
Moderately aware	1	2	2	2	2	1	7	12	8
Extremely aware	2	2	4	2	5	2	4	8	2
N =	3	4	8	7	7	3	12	31	14

Note: N = total number of respondents (managers and employees). The information in Table 6.5 is from the management and employee surveys.

Concerning awareness of environmental management issues, the majority responded that they were 'moderately aware' or 'extremely aware'. At RailCo the majority of managers indicated that they were 'extremely aware'. In contrast, at BusCo some managers reported that they were 'somewhat aware' or 'slightly aware' of environmental management issues. Typical was this response from the CRC and Energy Efficiency Manager:

> *I think sustainability now is a well-known word within (EnergyCo) and people have a fair idea of what the company definition is and within each of the business areas whether they know what it really means for their business areas is*

From the evidence, it is apparent that the majority of employees reported that they were 'moderately aware' of environmental management issues. But in all six cases sustainability arguably remains a vague concept for most workers. The challenge is to cascade the concept down from corporate-level to the operational workplace unit, and then translate sustainable low-carbon theory into processes and practices.

Changing the culture can begin when new employees join the organisation. For example, at EnergyCo one manager suggested, *'From entry into the company environmental issues should be examined in conjunction with engineering training'* (Anonymous Respondent, Management Survey). In terms of workplace learning and training, support for a sustainability strategy will be improved if workers see a direct link between the tasks they perform and the overall goals of the organisational goals. The evidence in this section underscores the critical role of leaders in promoting sustainability and encouraging workplace pro-environmental behaviours. From this evidence, it is clear that senior management commitment, clear performance indicators, and employee engagement facilitated effective environmental practices. The following section investigates the role of HRM in achieving a low-carbon workplace.

6.2   Environmental Human Resource Management

Table 6.6 shows five core HR activities – recruitment, selection, reward, appraisal and training – and a summary of HR managers' responses. Concerning to recruitment activities, four out of six cases had no plans to change the recruitment criterion. Only at RailCo and EnergyCo had 'some measures' been implemented that showed a preference for candidates committed to environmental sustainability. Also in four out of the six cases, HR managers indicated that 'some measures' had been implemented to select candidates knowledgeable of environmental management / climate change issues. However, qualitative interviewing did reveal that sustainability was influencing some aspects of the recruitment and selection process.

Table 6.6: HR managers' ratings of green HR practices that support environmental sustainability

	No plans to implement	Some measures	Comprehensive scheme
Recruitment Recruitment activities demonstrate a preference for candidates committed to environmental sustainability	CouncilOrg HealthOrg UniversityOrg BusCo	EnergyCo RailCo	
Selection Select candidates knowledgeable of environmental management / climate change issues	CouncilOrg BusCo	HealthOrg UniversityOrg RailCo EnergyCo	
Rewards Financial and/or non-financial rewards for employees who contribute to environmental sustainability	CouncilOrg HealthOrg UniversityOrg BusCo	RailCo EnergyC	
Appraisal Appraisal of employee environmental performance	CouncilOrg BusCo	HealthOrg UniversityOrg EnergyCo	RailCo
Training Environmental training is available for most employees; emphasis on environmental aspects of each job	BusCo	CouncilOrg HealthOrg UniversityOrg RailCo EnergyCo	

N = 6

Note: N = total number of respondents (HR managers). The information in Table 6.6 is from the HR survey.

The majority of HR managers indicated 'no plans to implement' measures. Again, only at RailCo and EnergyCo had 'some measures' been implemented. However, qualitative evidence reveal the use of informal and formal rewards to encourage pro-environmental behaviour and innovation. In the public sector cases, respondents downplayed the role of incentives in providing any motivation for engagement. Table 6.6 also shows that in four cases a performance appraisal system (PAS) was being used to assess employees' environmental performance. A formal performance appraisal arrangement has not been adopted at CouncilOrg and BusCo cases. In these cases, HR managers indicated that there were 'no plans to implement' measures to integrate sustainability objectives with the performance appraisal process.

The quantitative data provides no insight into the challenges of measuring environmental performance. In five out of six cases HR managers responded that 'some measures' to train employees in environmental matters had been implemented. Both survey and interview data affirm that training and workplace learning was a primary HR intervention for developing a pro-environmental organisational culture. Finally, with respect to the appraisal of employees' environmental performance four out of six cases had implemented either 'some measures' or a 'comprehensive scheme' of appraisal. However, HR managers at both CouncilOrg and BusCo reported 'no plans to implement' a performance appraisal process. The following section

examines through qualitative interviewing the extent and effectiveness of green HR practices across the six cases studies.

6.2.1 Recruitment and Selection

Table 6.6 shows that four out of six cases had no plans to change the recruitment criterion. Only at RailCo and EnergyCo had 'some measures' been implemented that showed a preference for candidates committed to environmental sustainability. Also in four out of the six cases, HR managers indicated that 'some measures' had been implemented to select candidates knowledgeable of environmental management / climate change issues. However, respondents did indicate that sustainability was beginning to influence some aspects of the recruitment and selection process. This much depended on the type of job position or the internal business unit doing the recruiting.

The criterion of sustainability in the recruitment and selection process was most evident at RailCo and Energy Co. Two managers explained:

> *Most companies probably understand that there is research done that students leaving university or graduates are now one of the things they are looking for is a company that is responsible in various ways but also in terms of environmental sustainability. I guess (the energy company) probably want to pitch itself in that are ... It is the way the whole industry is going where there is more of an emphasis on sustainability ... I think the perception of energy companies is probably not all that great in terms of the environmental side of things. So maybe there is a bit more work to be done from (EnergyCo's) side of things in terms of attracting people on that basis.* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

> *I am convinced it is not a fad now. I think it is here to stay and I think it is only going to get more important to people that come through university and where they consider going after that ... I certainly wouldn't want to move to a company that wasn't (1) forward thinking and (2) had 20-year-old buses running around polluting the place because that is not where I would want to take my career ... I think maybe indirectly the answer would be yes, I think it does affect people's decision on where they go for employment, but it won't be at the top of the list.* (Business Development Analyst, BusCo, 2013.08.06)

> *The environmental issues are mentioned in job descriptions now ... When I recruit in stations it is good to have awareness because people are involved in recycling and dealing with environmental issues at stations. I would say most place you go in (RailCo) you can identify something to do with the environment in most jobs.* (Operations Manager, RailCo, 2013.06.11)

In explaining that he '*wouldn't want to move to a company that wasn't forward thinking',* the participant illustrates the point that organisations can build a low-carbon workplace through self-selection of prospective employees. This suggests that given a choice, people are attracted to green employers with a strong ecological approach. The evidence suggests that at EnergyCo and the transport cases, the focus on 'low-carbon' commitments can be attributed to the inherently carbon intensive nature of their operations and management's efforts to control energy costs and establish themselves as sustainability leaders in the field.

In contrast, in the relatively low-carbon public sector cases, the sustainability criterion was integrated more informally into the recruitment and selection process. At UniversityOrg, for example, the Deputy Director of Human Resources explained that, '*it is not something that we actively promote in all our adverts, for example, for staff. It would be much more as part of a general good organisation to work for sort of feel good factor that it might be good for both promotion and retention*' (2013.08.22). Similarly, at HealthOrg interviewees put it like this:

> *I wouldn't say they are as direct to say come and work here we are the big green employer because I personally wouldn't feel comfortable to make that claim just yet. I think there is another year worth of work to be done to have enough information to I guess feel strongly enough to say yes, we are properly a green employer rather than "greenwash", which I'm sure is happening in a number of organisations. But what we are doing, for example, during staff recruitment we send information packs that highlight that we are a flexible working organisation, that we do provide the ability to work through childcare arrangements, and that are not a 9-5 organisation.* (Sustainability Manager, HealthOrg, 2013.07.08)

> *What we did find when we were recruiting was that people obviously do research before the interview. If they don't they are not likely to get the job, but they will have looked at the website, and some people would come along and actually our environmental activities were one of things that attracted them. The fact that we are active environmentally, we have a policy, and we were doing stuff, that that was quite attractive to them as a prospective employee.* (Head of Unit, Chair of Sustainability Committee, HealthOrg Centre, 2013.07.08)

This evidence indicates that the criterion of sustainability was integrated into the recruitment and selection process, albeit informally. In all three public sector cases, participants did explain that attracting new talent through sustainability commitments was increasingly important, and sustainability was a strategic objective the organisation's wished to communicate to newly inducted employees.

Another way to embed pro-ecological values in the workplace is by selecting people with green-related skills or values. In all six cases, there had been significant changes in job description for those employees directly responsible for sustainability-related roles in the organisation. The most extensive use of this practice took place with the creation of new 'green jobs' the public sector cases. For example, at CouncilOrg new specialised positions in the existing Carbon Management Team were created to improve energy monitoring and awareness. CouncilOrg also introduced a Green Wardens Programme, as part of a UK-wide charity-led initiative with the aim of tackling both climate change and youth and long-term unemployment. From August 2013 to August 2014, 16 Green Wardens had taken part in the programme and had identified potential savings in the council of almost £400,000, over 5.7 million kWh and 1979 tonnes of CO2. The Principal Energy Awareness Officer explained the low level of integration of sustainability in the recruitment and selection process like this:

> *I am going through a number of recruitment processes for a number of roles and yes we were looking for specific sustainability related experience, degrees or training, but we are a very small team. Whether those considerations are looked for outwith our team I would very much doubt.* (Principal Energy Awareness Officer, CouncilOrg, 2013.08.13)

In explaining the lack of sustainability in the recruitment and selection process, the senior sustainability manager emphasised how elected leadership were motivated to "be seen" to be creating green jobs:

> *The council are very keen to be seen to be encouraging green jobs … for example … our building services arm, although they are an external company in their own right, when they recruit apprentices I think they are paying a bit more heed to the sustainability agenda.* (Principal Energy Awareness Officer, CouncilOrg, 2013.08.13).

This suggests that while sustainability issues were not formally part of the recruitment and selection process, CouncilOrg's top leadership were concerned to create 'green jobs' and engage employees on decarbonisation. For sustainability related positions, CouncilOrg planned to recruit people who could demonstrate some commitment to the environment through formal training, education or related experience. This thesis found in all six cases evidence of recruiting new environmental managers with sustainability experience or education. This was especially the case at UniversityOrg, which had recently appointed a former senior manager from the Scottish Environmental Protection Agency as Director of Sustainability to champion sustainability at a strategic level within UniversityOrg.

6.2.2 Reward Management

The reward system and environmental management linkage is most evident at EnergyCo and RailCo. In these two cases there is evidence of individual financial payments when employees suggested innovations to improve environmental performance. Only in the case of EnergyCo are senior managers and the majority of the workforce formally evaluated on sustainability and rewarded through a performance-based pay system. This is significant, as it provides evidence of a strategic approach to reward management; that is the alignment of rewards and corporate strategic goals. In all six cases there was some evidence of informal and formal rewards to encourage employee pro-environmental behaviour and sustainability innovation. Although in public sector service organisations, participants downplayed the role of pay incentives in providing any motivation for engagement.

In the public sector cases, there was no evidence of performance-based pay or financial rewarding for encouraging employee sustainability practices and innovation. In these cases, interviewees confirmed the absence of financial rewards or individual pay schemes. In the private sector, however, five years ago EnergyCo had implemented the performance appraisal system and recently performance-related pay in April 2014. The performance appraisal system includes environmental management aspects. It evaluates an individual employee's day-to-day

performance and their overall contribution to the company's six-core values: safety, service, efficiency, sustainability, excellence, and teamwork.

The introduction of performance-related pay (PRP) caused tension and divisions in the workforce. Prior to its introduction, the unions balloted their members, which resulted in Prospect and Unison members accepting the pay offer and Unite and GMB members voting to reject. The Engineering Team Manager explained how the PRP scheme had led to divisions and expressed concern about the 'fairness' of the new system:

> There were a lot of problems with it. The trade unions all went to vote… I think the call centre staff, well not just the call centre staff, but the majority of the workforce that is in the line of work where they maybe are not planning on staying for a long time they are just going to be here on the short term and this performance related pay means that if you are new in the door you are getting a much bigger pay increase then if you have been here a long time. So it is rewarding people that don't stay very long basically, or that change job titles often…you have got all your different pay bands between 1 and 10. If you are at the start of that band which may be £30k - £40k, if you are at the £30k end of that your percentage for getting a 3 will be more than if you are at the £40k end. So you will maybe get 5 per cent for being at the £30k end and 1 per cent for being at the £40k end… So the older guys and the people that have been in their job for a long time they are losing out on a lot of money. Whereas before they got a standard 4 per cent whereas now the best they can hope for is 2 or 1 per cent. (Engineering Team Manager, EnergyCo, 2014.04.27)

This insight that *'if you are new in the door you are getting a much bigger pay increase then if you have been here a long time'* is reflective of the 'new pay' agenda in the UK, which emphasises individual performance, rather than seniority, and is a common feature of HR practice. Thus, some respondents argued that the new system unfairly rewarded recent employees in the call centre over more senior and experienced engineering and skilled-trades groups.

At EnergyCo, some of the respondents indicated that after the introduction of the performance-based pay system they had witnessed an increase in sustainability communication by line managers about innovation initiatives. They also maintained that the linking of sustainability to pay motivates senior managers to engage in low-carbon initiatives in their day-to-day work, and potentially encourages them to reflect upon how sustainability fits with the company's business strategy and the overall appraisal system:

> It might encourage managers to go away and look at what sustainability actually means. If I am going to have to assess somebody and rate somebody on this, then what does it mean? Maybe that will lead to them (managers) communicating back to their employees what they are expected to do to achieve the score in sustainability. So from that point of view now that it is linked to pay it might encourage them to actually outline it a little bit more clearly … I guess it goes back to the appraisal thing as well. If the line-manager doesn't know exactly what to talk about in terms of sustainability … we did those workshops for senior managers that I mentioned with Professor Bebbington and we do stuff for the people coming into the company in the inductions, but there is nothing in terms of on-going training that could be offered to line-managers. We do have an e-learning course on sustainability, which line-managers can go through to help their understanding … there is no incentive to do it. There are two separate modules. There is one that is a global module and then there is another one that is an SSE module that explains what we do in terms of sustainability. I think each of them is about an hour long. (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

This finding sheds a spotlight on the role of workplace learning. Although at EnergyCo there was reportedly no access to ongoing training, managers did have access to two voluntary online training modules. However, there were no formal incentives for managers to participate.

Employee perceptions of linking sustainability with the PAS reveal other less positive attitudes and experiences. At EnergyCo, the major criticism was the ongoing challenge of managers effectively measuring an employee's sustainability performance. Another related criticism stemmed from perceived level of self-efficacy among certain groups within the organisation, for example, office workers. This criticism was clear in the qualitative comments of participants. For example:

> *Apart from recycling, turning my computer off, I can do the basics of it ...There are people out there, let's say environmental managers, they are involved with the environment everyday regardless of what it is so there is a good chance of them achieving a high score on their performance review, but with me maybe not so high. Although I do everything in my ability, or what I think in my ability because we don't see the bigger picture it is maybe not thought about until nearer the time. You think oh shit my performance review is coming up I better do something for the environment. So I think it is a case of raising the profile and I suppose recognition maybe would come into it ... I don't know that the financial way, I am not saying it is a bad thing, I just don't know if it is the right way to change people's mindsets.*
> (Fault Dispatch Officer, EnergyCo, 2014.04.27)

Commenting that *'I do everything in my ability…because we don't see the bigger picture'* speaks to the concept of self-efficacy. The CRC and Energy Efficiency manager quoted below explains employee agency, the complexity of applying the concept of sustainability, and the challenges of managing an occupational diverse workforce.

> *The difficultly we find is there is only really so much that people can do, especially in a call centre. A person sitting at a desk doesn't have very much they can actually influence. So all they can really do is switch off their monitor and switch off their computer and after they have done that, there is nothing much more they can do … I think the person sitting in one part of the business they probably have an idea in their head what it means, but it might not be the same as what other people in their part of the business think it means and maybe it is the case that you would need to have this overarching definition for the company, but then a definition of what it means for each area. So that people within that area know what it is they are being appraised on, know what it is that is expected of them, know what it is that sustainability actually means to their part of the business and what the key aspects of that are is maybe the next step down the road. It is the same thing with the balance between the economic, social and environmental, but it is about trying to bring that down to what does that mean for a person sitting at a call centre, what does that mean for a linesman, what does it mean for the shop staff. It is the same concept, but in practical terms how is it worked out? I think that is where there is a missing link at the moment.* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

This evidence highlights the concept of worker agency and the challenges of engaging a diverse workforce with different levels of training, traditions and craft values found among skilled-trades, clerical, administrative and professional occupations. Further, it sheds a spotlight on the complexity of applying the multifaceted concept of sustainability to different business functions within a large multi-site organisation. Most participants were understandably hesitant to be overtly critical of their employer's HR practices to an unknown, external researcher. The Engineering Team Manager, however, cautiously suggested: *'Perhaps it is a bit much to have*

sustainability affecting your wages. It depends if there is a lot to be made there then fair enough, but from what we have seen I don't know if there is a lot' (Engineering Team Manager, EnergyCo, 2014.04.27). This statement indicates not only the challenges of integrating sustainability with performance-based pay but also it encourages us to be mindful of the dynamics of cooperation and conflict in the employment relationship.

The use of non-monetary rewards and recognition (such as awards) are seen to have a significant impact on employee willingness to generate sustainability initiatives (Renwick et al., 2013). At both RailCo and EnergyCo there was evidence of non-monetary rewards and recognition to encourage sustainability initiatives:

> *There is a progressive rewards scheme. Starting off with a thank you letter to small vouchers, or rewards. If someone does something … you can get a voucher. That can escalate into share of any staff suggestion that has been implemented. There is a bit of 'gain share' there but … There is nothing that okay you get a share £100k … because we are not in a position to deliver project that give us that level of benefit … We have to judge … if someone came up with a great idea there is no doubt we would support it and we would beat down the door of our landlord to get it implemented as well.* (Head of Environmental Compliance and Sustainability, RailCo, 2013.06.02)

> *We have the "Licence to Innovate" which you can come up with an idea about anything. You put it forward and it will be considered and they will then come back to you with a yes or no ... There was a big drive. It was a big thing for a long time when our old managing director (John Smith) was around. He was really big on it. There were financial incentives for people to give License to Innovate. So they were putting in a License to Innovate and if it was accepted it was £50.* (Fault Dispatch Officer, EnergyCo, 2014.04.27)

This evidence suggests that sustainability innovation was integrated into the rewards system. However, it was suggested by some employees that the 'Licence to Innovate' scheme was difficult to engage with and time-consuming. As one EnergyCo manager explains:

> *It is so complicated to get through … Generally people now are so busy that the thought of trying to take an afternoon to put together a plan, or to fine tune a proposal is almost impossible. I put forward not so long ago, we use a mapping system and it is layered on an ordinate survey but on it we identify areas of scientific interest SSI's (Sites of Scientific Interest), historic monuments. There are about 5 different grades. They are coloured, but there isn't a coloured code on the map to tell you what it is. So if somebody sees an orange circle and they have only been doing the job a year or so and they look and go, "well I don't see any reason why we can't just go through like that" (laugh). I said why don't you just put a colour code on the side so that when they look with an orange circle there a historic monument and must stay 30 metres away you could just go, "oh we will just go over here then". But it was so complicated to get it through I just gave up.* (Wayleave Officer, EnergyCo, 2014.04.27)

Similarly, engineering and skilled-trades employees at EnergyCo also considered the process to be tedious and time-consuming.

> *There are too many steps in the process. Well there is maybe not, but the guys think that there is and that and as soon as you come into an office scenario that I am going to get asked to do all this and all this paper work. They just want to come to work do their work and go home. It is trying to get them into that thinking where all you really have to do to is come up with this innovative idea … If you have come up with one is to bring it to me and we can work together to get it to hopefully to fruition to get it working...It is about trying to get them to take the responsibility in that way. Well maybe not the responsibility, but to bring the idea and have a good think about them. A lot of the guys are coming in for their day's work, and they get paid at the end of the month and that's it* (Engineering Team Manager, EnergyCo, 2014.04.27)

The salient point to emerge from this evidence is that without adequate investment in training, change agents face multiple challenges of encouraging employees to participate in corporate-led, top-down innovation schemes.

In public and private sector cases there was evidence of non-monetary rewards and recognition to support environmental sustainability and encourage employees' low-carbon behaviour. At RailCo the Graduate Environmental Manager explained, *'The Going the Extra Mile you get a voucher. One of our champions I think is going to get it because he has been very helpful with the monitoring of the recycling and getting stations in his area enthused about it'* (Graduate Environmental Manager, RailCo, 2013.07.11)

RailCo's non-monetary rewards scheme was aligned with corporate objectives and considered by managers to be a 'useful tool' to encourage employee sustainability behaviour. In HealthOrg's case, non-monetary rewards were seen to help managers change employee behaviour, as the Sustainability Manager explained:

> *The current Equality and Efficiency programme, it's called QuEST … it is what has made our existing or our ex-11 divisions into 6 business units. It is a transformation programme to be more efficient as an organisation because there is a lot of duplication of work …With that programme there is also an employee reward project that is being discussed and I think there may be an element of some small rewards of £20 vouchers and whatnot, that could be rolled out, but it's a way of telling staff that they are important, that we do care, that without them there would be nothing.* (Sustainability Manager, HealthOrg, 2013.07.08)

Participants in the public and private sector cases commented that non-monetary rewards were used to encourage low-carbon behaviour and enlist employee support and cooperation with organisation change. At HealthCo, for example, management introduced a policy whereby employees could claim 20p per mile compensation for cycling to and from meetings.

> *If you cycle (to meetings) you will get 20p per mile. That is something that came from the top and is now a policy of HR. You can put in your expenses … We tried to give 10p per mile to cyclists … but the people who cycle say they don't want to claim it back because they are doing it because they want to. It is not very accurate but it is there as an incentive for whoever wants to go to a meeting on a bike.* (Conference Coordinator, Environmental and Equality Lead, HealthOrg, 2013.07.09)

Commenting on recent efforts to encourage employees to bicycle to work, the Sustainability Manager discussed the role of non-monetary rewards like this:

> *We have had some good win moments where particular groups take a lead … We had a Bike Week Stall where we invited other cyclists to come in and do half an hour at reception talking to people, getting names down for maybe being bike buddies, discussing traffic free ways to get to work, stuff like that. I was promoting the Cycling to Work scheme so you can get a bike at a discount tax-free … In the public sector we get a bit of love from companies. For example, the Climate Change Fund had supported a piece of work that with the Bike Station we're running 'Better Way to Work'… We had guys from Grease Monkeys here a couple of weeks ago during Bike Week where they gave us half price bike maintenance. So staff had to pay £15, but it was £33 service. So you get a bit of that love from organisations that we can then pass on to employees. To say look, 'we can't give you a £100 M&S voucher for being the best at what you do,*

but you know there will be some perks that come from working here that we will try to promote' (Sustainability Manager, HealthOrg, 2013.07.08)

CouncilOrg also incentivised their workers with non-monetary rewards as part of their employee energy reduction campaign. The Principal Officer within the Environment and Strategy Team explained:

> *In terms of the energy reduction unit they done a great example of they were wanting staff to switch off monitors and there is an information campaign out…they went around with cards and chocolates and if people had switched off their computer they got a chocolate and if they hadn't they got a card and that did make it very personal to that individual. As an employee you have not switched off your monitor. And the cards were good because it was giving information about energy savings and why they should do it … I don't really know that it needs rewards on a long-term basis. I think maybe in a short term for awareness raising type idea. I actually think if you educate the staff well enough then they understand the part that they play then I think it would continue on without necessarily a reward to it.* (Principal Officer of Environment and Strategy, CouncilOrg, 2013.08.27).

Likewise, at EnergyCo the Fault Dispatch Officer explained the use of non-monetary rewards such as electric vehicle charging points to encourage low-carbon transport:

> *We do 'Green Walk Way' we have invested in an eco-town to do trials there you find out a lot about the research they are doing with companies. We have car-charging points at most of our sites. They are doing trials with electric cars. So you can get an electric car for maybe six months and give your feedback on it. So there are lots of opportunities to get involved in it.* (Fault Dispatch Officer, EnergyCo, 2014.04.27)

The evidence points to widespread use in all six cases of non-monetary rewards to support low-carbon behaviours. Acknowledging the nonexistence of a financial rewards scheme at HealthOrg, the managers commented: '*The 'NHS doesn't do rewards. You are supposed to feel good because you work for the NHS*' (2013.07.08). The absence of a pay-performance culture was also an important factor:

> *You need incentives for things. Unfortunately, we have no budget. I have no budget. My budget is that I have to make the saving to provide my salary to support whatever I decide to do. So in a way that is a great way of working because I need help from people. I'm here to embed this idea and don't expect me to go out and buy you promotional freebies and things. What we tend to do is one angle I find that, if you are in it for the money chances are you are not going to be working for the NHS. There is an element of I think pride that comes from working in the NHS that in and of itself we can then use locality to drive the objectives … a bit geographical banter always works…The same goes with getting that data from a waste point of view, 'oh our recycling rate is seventy per cent (70%) and yours is only fifty per cent (50%)'. So a bit of internal competition is very good.* (Sustainability Manager, HealthOrg, 2013.07.08)

The evidence suggests that the reward-environmental behaviour nexus is generally eschewed in healthcare in Scotland, and is a further reminder that HR strategy has to be 'context-sensitive' (Ferlie and Ongaro, 2015: 221). The lack of emphasis on monetary incentives for pro-environmental performance in health care is reflective of Scotland's politico-administrative culture and political context. The evidence from CouncilOrg and UniversityOrg supports this observation.

In the private sector organisation, evidence supports the effectiveness of non-monetary rewards and recognition in motivating employee low-carbon behaviour. The CRC and Energy Efficiency Manager at EnergyCo explained that competition and recognition schemes had been successfully used to motivate employees in a corporate-led energy reduction campaign:

> *The very first thing we did on the 'War on Watts' was a research project in the shops. We wanted to find out what it was that actually motivated behaviour … so we split the shops into separate groups. We gave each of the groups different incentives. Some of them got lots of information about their energy use, one of the other groups was put into a league table so there was competition, and another group was given the incentive of prizes and things and we worked out that the main thing that drove reduction was information and competition. So we tried to put a little bit of research behind it and we have used that learning to tailor our approach ... What we found was giving somebody a trophy actually worked out all right because that was linked in with competition…We tried to vary it in the way of the format of the competitions. So we did something linking in with the six nations rugby and put together a Scotland, England, Wales competition alongside the site-by-site competitions. We have done another competition in the depots where we take the World Cup idea of groups and then into knockout stages…One of the other ones we did was a record breakers thing. So we gave them the target of achieving the lowest monthly energy use. So just trying to put different slants on the same thing.* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

Similarly, the Employee Relations Manager at RailCo described how information and competition was successfully used to encourage drivers to adopt energy efficient driving techniques:

> *Part of your simulator is doing eco-driving and you produce a league of people who can do eco-driving best and once you started that it was a competition between about who could do it the easiest and give them rewards for and it says that you are the top of the league for the eco-driving, and then they started to get a lot of buy-in. Now people are interested in eco-driving and I actually think it gives them something else to think about when they are driving because it is good for them because it keeps their mental simulation up* (Employee Relations Manager, RailCo, 2013.06.11)

Also at UniversityOrg the Sustainability Awards' were introduced in partnership with the students' union to encourage students and employees to work in teams to create a more sustainable campus.

> *I always think competition can also be quite effective, but only if there is a sense of it mattering. So for example the award scheme I don't have a particular sense of how much people think it matters, but having said that more and more people are going for it so obviously there is that and I think there are ways of engaging a degree of competition between different areas so that there might be something about publicising between areas or having a race.* (Deputy Director of Human Resources, UniversityOrg, 2013.08.22)

> *Through the sustainability awards, teams of people who do well get celebrated on stage in front of 100 and odd people and then named or at least their team is named and someone will go up and collect it for their team. The prize we give them, for example, is like hamper of food to share because it is a prize that we can afford that is sharable amongst 5 or 6 people or whatever the size of the team is. So that is something were we give them a reward … There is no current incentive scheme for people to take part. They are taking part because they think it sounds interesting and because of the sense of community that we try to build and as far as I can tell those are the only common reasons.* (Sustainability Engagement Manager, UniversityOrg, 2013.07.21)

The university launched the sustainability award scheme in 2010, which mainly include public ways of recognising the environmental performance attained by the participating schools or departments. In summary, the research found that in all six cases non-monetary rewards such as recognition rituals (e.g. eco-driver of the month) and ceremonies (e.g., prize giving) were used to

communicate and reinforce desired employee low-carbon behaviours, and only at EnergyCo were financial incentives linked to an employee's sustainability performance.

6.2.3 Performance Appraisal

In five of the six cases different organisational sub-units were evaluated based on environmental risk areas. At EnergyCo and RailCo environmental performance measurement exhibited the most integration with the core processes of the organisation. Each case had annual goals for reductions in carbon emissions and for developing innovations. However, in four out of six cases participants indicated that for the majority the measurement of individual employee's environmental performance was not an aspect of their employment contract. The data confirmed that the nexus of performance measurement and appraisal and environmental sustainability was most evident at EnergyCo and RailCo.

Integrating performance appraisal with sustainability objectives presents many challenges, particularly the *measurement* of environmental performance across the organisation (Renwick et al., 2013: 5). In five out of the six cases different sub-units are evaluated based on environmental performance. For example, at UniversityOrg the Department of Sustainability is evaluated primarily on its contribution to reducing carbon emissions across the estate. The Sustainability Communications Manager explained: '*We have this specific measurable, achievable, relevant, and time bound smart objective… which for the next five years that is what they said they want to know – carbon emission per (£) pound of turnover*' (UniversityOrg, 2013.07.16). While the department as a business unit is evaluated on reducing carbon emissions, individual employees within the department are evaluated on how their day-to-day work contributes to creating a lower-carbon university:

> *Our Department's only measured target is carbon emissions officially, but individual programmes will be based upon other aspects … If I work on a campaign to reduce recycling contamination or a programme to encourage more people to lift-share it would be based upon either a target of this many kilowatt hours saved, which is a very difficult thing to measure for us at the moment which is quite frustrating, or sort of a surrogate outcome or outcomes such as we have measured a reduction in waste sent to landfill, or more people have signed-up for this car scheme and more rides have taken place on it or something like that so that is how I judge the success of campaigns with my work. If I am asked to justify why I spent this much time and this much money on this particular area of work. I say well it is because it will do this, it will save this much.* (Sustainability Communications Manager, UniversityOrg, 2013.07.16)

At RailCo most locations, such as stations and depots, are evaluated on environmental aspects (e.g., energy, water, recycling) and individual employees are also appraised on how their day-to-day work contributes to the company's environmental targets. Managers at RailCo explained:

> *The locations are evaluated. So the local managers report for their locations. But as we delve into that in more detail what might be apparent is there might be a railway station where …There may be three of four parties …They might have a couple of rooms and a store and they clean trains at night. And they would use more energy than a station that didn't do that. They may have a staff mess hall…So depending of the occupancy that may have an effect of their overall performance…There is no overall benchmark …That will be years before anything like that comes to fruition. It very*

difficult to get the cause and effect at an individual level. (Head of Environmental Compliance and Sustainability, RailCo, 2013.06.02)

Every other period we will issue electronically a document that is called 'How are we Performing' and it goes through each of the business objectives including our CSR and Environmental targets. And that updates our progress against those objectives ... Also all stations are sent out a monthly report as well that tells them their progress against energy usage, water consumption so that they have details locally in terms of their own impact and things that they might want to do differently … Those are things that will be sense checked. People will have objectives around their environmental awareness, impact, things that they can do and put in place to try to minimise their impact and try to contribute to our targets. So from that perspective, those kinds of practices would focus people's minds. (Employee Engagement Manager, RailCo, 2013.06.02)

At RailCo, the participants explained that stations are evaluated on a monthly basis using a 'traffic-light' reporting system, which is based on performance indicators of each environmental risk area. Environmental information is then cascaded by managers and communicated to employees at weekly team briefing meetings. This information can then be interpreted by managers to inform the environmental aspect of the individual performance appraisal and review process.

In the energy case, for the majority of employees, environmental performance is an aspect of work that is formally evaluated. At EnergyCo sustainability is one of its six-core values and the individual assessment of employee environmental performance is carried out during the annual appraisal interview. The formal link between employee environmental performance and pay is established in the performance appraisal system (PAS), first introduced in 2013. At least in theory, PAS has the potential to influence an employee's performance rating and annual incremental pay. The CRC and Energy Efficiency Manager explained the system:

In your appraisal you basically go through the core values of the company and that is the way it has been for the past few years, but now from this year onwards they are linking-in your scores to your incremental increase in your pay. That has never been a thing before. I think that is where the new emphasis on it is. So it has always been there. It probably all depends on who your line-manager that you are going through the process with as to how long you actually spend on the (sustainability) section of the appraisal form. There are lots of other aspects to it as well as the six core values that are part of the overall appraisal. I would say out of the six core values maybe sustainability is one that you would spend less time on than some of the other ones. You have things like teamwork and service, which are maybe a bit easier for people to have a discussion around rather than sustainability. (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

This extract is significant because it illustrates that by measuring *'six core values'* performance appraisal is central to managing a culture change. Interviewees indicated that the key component of the appraisal process involves an annual one-to-one interview with a line-manager and employee, which would take approximately one hour.

Participants at EnergyCo expressed concerns about work intensification or 'squeezing' complex jobs into standardised measures and emphasising the 'questionable link' between individual effort and reward (Taylor, 2013). The Engineering Team Manager at EnergyCo explained his

concerns about the challenges of evaluating an individual employee's sustainability performance like this:

> *Performance management has just come in recently and a lot of people aren't too convinced. They haven't been fully sold on the idea put it that way … The managers were taken on a two-day course but it wasn't an awful lot of training. I don't want to be the bad guy that slates this, but we were taken on a two-day training course which taught us what it was and we knew nothing about it when we first started and by the end of it we were expect to go out and come up with goals for our guys and basically do the whole show ourselves … Trying to define goals for guys that work in this field are pretty difficult and to try and keep them consistent for everybody. You have this operational situation where the (company) set (of values) you can kind of muck through and come up with things for each of the points, but you have to have your own personal goals as well. So how do you come up with a goal that the guys can work towards? I certainly had problems trying to think of things. It is trying to quantify something. You have to be able to measure it, a measureable goal.* (Engineering Team Manager, EnergyCo, 2014.06.24)

This evidence is significant as the manager explains how employees' behaviours can be transformed through measuring performance using established sustainability targets. Interviewees also explained that performance management could be used for negative reinforcements (such as criticisms, warnings and suspensions) if employees' lapsed in meeting their environmental targets.

Respondents expressed that the introduction of the performance appraisal system (PAS) had led to an increase in workload for both managers and employees. Relatedly, it was also suggested that PAS could potentially have a negative impact on the social relations between line-manager and employees. The Engineering Team Manager explained:

> *It is a distraction. You are obviously the guy's managers, but at the same time because you are spending so much time with them you need to get along with them as well. I have not known anybody to fall out, but I would imagine it will at some point or probably has done at some point … Another thing that wasn't really thought about was the workload that it has caused for everybody because the guys need to be recording evidence that they are doing what they are saying what they are doing and if I am going to be scoring them down for something I have to get hard evidence to do that … there has been no extra time or staff brought in to help manage it. It is now about trying to find the time when you have got your normal business to go about as well…It is a lot of work writing these things up and making sure that at the end of day it is somebody's livelihood you are talking about it is their wages.* (Engineering Team Manager, EnergyCo, 2014.06.24)

This extract illustrates how PAS can potentially impact negatively on social relations because, *'obviously the guy's managers … but at the same time… you need to get along with them as well'*. The necessary record keeping that informs the PAS process was seen as time consuming with no extra time allocated to complete this task. Managers explained the problem like this:

> *We have done our first year with performance related pay and they have introduced a scheme where you can be graded from 1 to 5 depending on your performance and we were all told that nobody would get above a 3 and the performance, your performance as your manager perceived it, was about how you handled your workload, how you interacted with everybody else, and how successful you were in getting through the job in front of you. So obviously the more jobs you got through the better sort of thing.* (Wayleave Officer, EnergyCo, 2014.04.27)

> <u>*We have been told there is a bell curve*</u>*. I have not had any pressure put on me to give anybody any sort of scores, but I have heard that there is a curve. None of my guys that work under me were good enough for a 5 or bad enough for a 1 so I didn't really have any problems with that and I have not heard of anybody being forced to change their scores, but there is a bell curve.* (Engineering Team Manager, EnergyCo, 2014.04.27)

The evidence draws attention to the added pressure on line-mangers when pay is linked to performance including, the potential to create tensions within a work team, '*the guys speak as well. They talk. They know. It is anonymous, but they know*' (Engineering Team Manager, EnergyCo, 2014.04.27). Other interviewees explained the difficulty of measuring and evaluating sustainability performance:

> *I think that is probably a fair assessment that probably some of the managers don't know exactly how they would assess somebody on sustainability. And again because there is such a variety of different business within the company I suppose it means different things to different people so you couldn't have a general way of assessing people you would have to do it on a job-by-job basis. For the person sitting in the call centre it means something completely different to the guy that is out climbing up poles. For the person sitting at the call centre their line-manager is probably thinking, "what can this person do to be more sustainable?" And they are probably thinking more along the lines of, "Does the person recycle? Do they switch off their computer?" But again there is probably crossover with some of the other things as well because one of the other core values is efficiency. That probably feeds into some of those things as well depending on how you look at it. I don't know if the managers who do the appraisals have any help as to what kind of things they should be talking about* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

This evidence reported on the forced use of the Bell Curve, increased control, the resulting intensification of work for both managers and other employees, and the lack of investment in management training for implementing PAS.

In all the public sector cases environmental criterion in employee appraisal or 'personal development plan' is not well developed or systematic and, for the majority of employees, environmental performance is not an aspect of work that is formally measured or evaluated. The Head of the HealthOrg Centre explained that the personal development plan:

> *The way that our appraisal works is that I write my objectives, my boss doesn't write my objectives, I write my objectives. I know what it is I need to do so I write my objectives. And he might give me some comments and feedback on it, but fundamentally they are my objectives. And other staff will write their own objectives. And when we were very active, when we were at the sort of really building this up and really getting ourselves into position people would have it as part of their objectives. But the objectives will change every year depending on how it is going on. For example, the event team had to achieve the British standard in environmental events management…that would have been part of the team's objectives when it was a live issue.* (Head of Unit, Chair of Sustainability Committee, HealthOrg Centre, 2013.07.08)

Interviewees at CouncilOrg described how employees were encouraged to include environmental dimensions in their development plan. The Principal Energy Awareness Officer described the environmental objectives in personal development plans:

> *Although the survey was anonymous we can go can broadly go back to the services and say look if anyone wants to be a voluntary energy champion or wants to get involved in developing the action plan for the service or whatever it might be we would encourage that. Where they need or would require training again we support and we do within limits we do that. We train certain members of the services on our energy management software so they can directly look at performance themselves, but in terms of developing the individual's personal development plan it is very much employee led. I think our role is more around letting them know that is an option.* (Principal Energy Awareness Officer, CouncilOrg, 2013.08.20)

The Principal Energy Awareness Officer and the Assistant HR Advisor explained that at an individual-level environmental performance is generally not measured or evaluated within CouncilOrg. Both did however explain that employees were encouraged to incorporate sustainability aspects into their own personal development plan:

> *… it is part of the objectives of your role under the values and aims of the council that you must adhere to them … but there is no specific element of the PDP that allows for that … Employees could highlight that they want some more information, more training on the environmental side, but nothing formal.* (Assistant Human Resources Advisor, CouncilOrg, 2013.08.13)

The evidence from both participants suggest that within CouncilOrg performance appraisal is employee led, but units were in the early stages of incorporating environmental performance dimensions into the employee PAS. In summary, the use of appraisal was used only at RailCo and EnergyCo at an individual level. There was no evidence of performance appraisal in the three public sector cases., which reinforces critical management studies that context matters.

6.2.4 Training and Workplace Learning

In all six case studies, the survey results show that a greater percentage of managers had received environmental management training compared to other employees. For example, at RailCo 70 per cent of respondents reported that they had received 'no' training. In contrast, 70 per cent of managers reported they had received training. It is important to note, however, that at RailCo and UniversityOrg environmental practitioners represented the majority of manager respondents. Thus it is plausible to assume that managers responsible for environmental sustainability would report higher levels of training compared to other employees. With regard to perceptions of the effectiveness of environmental management training, in four out of six cases the majority of respondents rated environmental management training as 'good' overall. The findings are displayed in Tables 6.7 and Table 6.8.

Table 6.7: Number of respondents (managers & employees) who had access to environmental management training

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
No	2	1	4	6	2	1	6	22	6
Yes	1	3	2	1	5	2	3	6	7
Not sure	0	0	2	0	0	0	3	3	1
N =	3	4	8	7	7	3	12	31	14

Note: N = total number of respondents (managers and employees). The information in Table 6.7 is from the management and employee surveys.

In all six of the cases participants explained in face-to-face interviews that low-carbon issues were either informally or formally integrated into different aspect of training the most common theme was the organisation's environmental policy. The findings reveal that at the transport and energy cases environmental awareness was strategically important and organisational policy was a priority, as well as a core rhetorical feature of the organisation's culture. For example, all new employees received some formal environmental training through an induction programme. Interviewees described the formal aspects of the training:

> *In terms of staff training, every member of staff join induction week. Which hammers on about safety … understandably … but includes other staff policies with environment as one. They will be informed that there is an environmental policy. They will also get a tutorial session on what are the main risks and what are we trying to achieve from the environmental.* (Head of Environmental Compliance and Sustainability, RailCo, 2013.06.02)

> *Sustainability is covered generally in the induction and the way the induction works is they cover all the core values of the company, but then there is a one-hour presentation on sustainability … It is quite general in nature because you would have people in the induction from all different parts of the business … I would always do it in the form of an interactive presentation and split them into subgroups and do a quiz running through the whole thing.* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

At RailCo and EnergyCo there is evidence of training and development interventions playing a key role in shaping pro-environmental behaviours, by pursuing a range of activities that include decarbonising efforts. In addition to mandatory induction training on their organisation's strategic aims, new employees received environmental training covering climate change and the company's environmental policy.

Table 6.8: Number of respondents' (managers & employees) perception of environmental management training

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Very poor	0	0	0	0	0	0	0	0	0
Poor	0	0	0	0	0	0	0	0	0
Neutral	1	1	0	1	0	0	0	1	1
Good	0	2	2	0	2	2	3	5	6
Very good	0	0	0	0	3	0	0	0	0
N =	1	3	2	1	5	2	3	6	7

Note: N = total number of respondents (managers and employees). The information in Table 6.8 is from the management and employee surveys.

The transport cases (BusCo, RailCo) particularly highlight how environmental training can play a key role in contributing to environmental sustainability strategy. For example, all drivers received training on energy efficient driving or 'eco-driving', a practice to encourage more fuel-efficient driving behaviour. Managers in both transport cases echoed the important role of training on energy-efficient driving practices. The Driving Team Manager and Driving Instructor at RailCo explained how eco-driving practices were first introduced like this:

In the past five years, all new and existing drivers at RailCo had received comprehensive eco-driving training. While at the same time, the company had also made substantial investments in new infrastructure such as 'coasting boards' and driver assistance systems (DAS), all of which were intended to encourage safer and more energy-efficient driving. When asked, '*How can eco-driving be improved in this organisation?*' the Driver Team Manager and Driving Instructor explained:

Eco-driving is pretty standard now. I have noticed a vast, vast, vast change … All the drivers are aware of it now, everybody knows what eco-driving is … We look at it as part of their assessment process … A new driver will visit a simulator once a year and an experienced driver every two years and they do the eco-driving at least once within that time and it is something that we look for on the downloads and just generally part of their driving. (Driver Team Manager and Driving Instructor, RailCo, 2013.08.05)

This evidence underscores the importance of embedding the new pro-environmental behaviours as part of a culture change that includes the '*assessment process*'. The RailCo case study also illustrated the circumstances in which unions and employers can constructively advance pro-environmental behaviours and practices through joint collaboration in training activities. In 2013 the RMT union, with the support of external European Union government funding, approached senior management at RailCo in an effort to improve eco-driving training and create new 'green' union representatives.

At the BusCo case study, energy-efficient driving was currently '*not an immediate priority*' and neither was it formally embedded within the driver training and performance appraisal process. The Environment and CSR Manager at BusCo commented that, '*drivers received annual training as part of their certificate of professional competency and that <u>sometimes</u> includes eco-driving and eco-awareness*' [emphasis added]. The Head of Human Resources explained the current aims of their training and development programme like this:

The one area that we will be focusing on and we are starting to focus on here is driving standards … The big one is around driving standards and it is for customer satisfaction, reducing the number of on-road incidents and smoother driving all of which lead to a smoother drive which, is a more economical drive and we are building that into our training more and our on-going professional development ... Our prime focus for that, is the on-road incidents, we have too many accidents at the moment. The by-product of that will be smoother driving, which is a better customer experience and more fuel economy, but they are not the prime drivers. The prime driver is the accident rates. We are building that very much into the new driver training and the continual professional development for drivers. There is no reward associated with that. The reward is you have less accidents and keep your job. Slightly tongue and cheek, but not far off the truth. (Head of Human Resources, BusCo, 2013.08.21)

A core point that arises from this extract, therefore, is that the key priority was reducing on-road accidents and promoting energy-efficient driving was of secondary importance. The evidence

from the transport case studies highlights the close relationship between safe-driving practices and improved energy efficiency.

Across the six cases studies there were varying levels of employee participation in environmental training. In the local government case, for example, discussing the extent that sustainability aspects were integrated into formal training, a participant explained:

> *It is not currently included in the induction package it is something that we have previously asked about and I think at the time there was recruitment freeze on so there were no staff coming into the council anyway so it wasn't the time to do that. Now that there are more it is probably something we can look at again as there are more jobs available. So there would be a reason to make changes to the induction package. We do have an online training from the Energy Savings Trust for staff. It is not compulsory. We have previously asked if it could be and we were told no because it can turn people off if we do. I am currently looking at updating the online training course to make it more about the (CouncilOrg) rather than just generic energy savings tips training.* (Energy Awareness Officer, CouncilOrg, 2013.08.20)

The findings suggest that in all three of the public sector cases organisational sustainability was beginning to be informally integrated into the employees' learning and development plans. Employee training and development activities can therefore help an organisation achieve its environmental targets and strategic goals. Table 6.9 shows the number of managers and employees interested in additional environmental management training. The findings are discussed below.

Table 6.9: Number of respondents (managers & employees) who would consider undertaking additional environmental management training

	Managers						*Employees*		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
No	0	3	0	2	2	1	6	7	6
Yes	3	1	8	5	5	2	6	24	8
N =	3	4	8	7	7	3	12	31	14

Note: N = total number of respondents (managers and employees). The information in Table 6.8 is from the management and employee surveys.

In five out of the six cases the majority of respondents indicated 'yes' that they would consider undertaking additional environmental management training. Examining across the case studies, carbon management and energy efficiency, waste reduction and recycling, and employee engagement were the most frequently requested environmental management training topics. It is also significant to note that while all three public sector cases had not received EMS accreditation (e.g., ISO 14001 or EMAS), as previously reported in Chapter 4, managers at both CouncilOrg and UniversityOrg requested training on EMS.

Table 6.10: Respondents (managers & employees) requested environmental management training topics in rank order

Managers					Employees		
CouncilOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Carbon management	Carbon management	Reduction of emissions / fuel management	Waste reduction & recycling	Energy efficiency	Employee engagement	Waste reduction & recycling	Waste reduction & recycling
Energy efficiency	Eco-Management and Audit Scheme	Conversion from paper to digital	Employee engagement	Carbon accounting		Paper management	Land issues
Environmental Management Systems	Legal compliance	Environmental impact on Health and Safety issues	Climate change			Updates on new regulations	
	Project planning & design for environmental change		Institute of Environmental Management & Assessment Accreditation			Awareness of new technologies / processes	

Note: A content analysis of the employee and management surveys was undertaken to establish common themes and identify the most request environmental management training topics. The most requested environmental management training topics were identified in this thesis study.

Commenting on the importance of aligning individual learning and development objectives with broader organisational strategic goals, the Graduate Environmental Manager at RailCo explained that management was developing an '*environmental management course* [for] *all employees, covering the environmental impact of the compan*y, *what can we do to minimise it, and why it is important. What is sustainable development as well as to try to get a link between the business and social aspect of environmentalism and environmental initiatives in the workplace'* (2013.07.11). This extract provides an example of strategic HRM thinking in that the management team was planning to align a key HR practice, training and development, to the organisation's strategic goals. This thesis demonstrates that training and workplace learning is the primary HR intervention to support environmental management. In all six cases training and learning was critical to the successful implementation of sustainability initiatives and developing employee pro-environmental behaviours.

6.3   Summary and the Role of Human Resource Management

This chapter has examined environmental leadership, organisational culture and climate and the role of green HR practices in supporting environmental sustainability change efforts at the six case studies. The findings emphasise the key role of leaders as change agents, and in promoting sustainability and encouraging workplace low-carbon behaviour. The research suggests that

senior management commitment and employee engagement facilitated effective environmental practices. Line managers not only deliver operational targets, they enact HR practices and, importantly, as one of the most visible role models and carriers of organisational values, they foster a learning climate.

The aim of the chapter is to analyse the role of green HR practices – recruitment and selection, rewards, performance appraisal and training - that can support environmental sustainability. In all six case studies, sustainability dimensions had not yet been formally integrated into the recruitment and selection process. However, across the cases sustainability was either informally or formally influencing some aspects of the recruitment and selection process. There was, for example, evidence of the hiring of new managers for their sustainability experience or education in all six case studies. In all six cases studies there was evidence of informal and formal rewards to encourage pro-environmental behavior. Although only at EnergyCo were employees both formally evaluated on sustainability targets using a performance appraisal system. In the public sector, the role of incentives did not feature as a tool to change employees' behaviours. The research found that organisations are stimulating sustainability activities with non-monetary rewards such as employee awards, recognition schemes and gift certificates awards.

In five of the six case studies different organisational units are evaluated based on environmental risk areas (e.g., energy, waste, water). The qualitative evidence highlights that formally integrating performance appraisal with sustainability objectives presents many challenges, especially the challenges of measuring environmental performance across different departments or units. As one manager explained, *'the only way you can actually really delve into the nitty-gritty budgets and carbon emissions is through the business travel side of things. Who is making the claims, and who is signing off what. Now that's where I am still grey on getting that data. Once I have that, it's gold dust'* (2013.07.08). This observation illustrates the challenge of the establishment of effective and reliable criteria, and the need for the manager to be trained. It was noted that interviewees at EnergyCo expressed their concern about the potential for the appraisal process to negatively impact social relations between line-managers and employees. In four of the six cases respondents indicated that for the majority of employees environmental performance appraisal is not an aspect of work that is formally evaluated at an individual level.

The findings indicate that employee training and development is a key HR intervention for developing a pro-environmental culture. Much of this training is related to improving employee

health and safety, energy saving and waste management. In all six case studies sustainability dimensions were either informally or formally integrated into aspects of training. To further illustrate the observation, at BusCo and RailCo all drivers received training on energy efficient driving or 'eco-driving' as part of their overall training programme. Examining across all of the cases there were varying levels of employee participation in environmental training. The findings from the cases demonstrate that a combination of HR practices can play a key role in creating pro-environmental cultures, and can significantly contribute to long-term environmental sustainability of organisations and society.

This chapter highlighted the importance of leadership in encouraging employee pro-environmental behaviours. It explored how leadership, culture and HR practices influence environmental sustainability in the workplace. Specifically, it investigated (1) environmental leadership and organisational culture and climate and, (2) the relationship between workplace environmental sustainability and five core HR activities – recruitment, selection, reward, appraisal and training. The following chapter focuses on the contribution various employee voice mechanisms can make to workplace environmental sustainability. It also includes an investigation on the contribution of trade unions to building environmentally sustainable workplaces.

Chapter 7

Employee Voice: Participation and the Union Role in Workplace Sustainability

This chapter examines a variety of employee participation practices which managers in the six case studies engaged their employees, including direct communication, upward problem solving, financial participation, and representative participation. This chapter seeks to analyse different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which potentially enable or constrain workplace environmental sustainability. In addition, it seeks to evaluate the potential for a partnership approach towards environmental sustainability in the workplace. The findings provide an understanding of how environmental targets and responsibilities are communicated and which involvement and participation processes are most favoured by managers to engage employees in pro-environmental issues and decision-making. The findings provide evidence of how unions can make a contribution to environmental sustainability and demonstrates that partnership working and mutual gains can be a feature of a sustainable workplace. The findings from this chapter set the scene for the following chapter that discusses leadership and management, HR practices and employment relations in each of the six cases studies.

7.1 Employee Participation in Environmental Sustainability

Table 7.1 shows a summary of HR managers' ratings of GHRM practices that support employee participation in environmental sustainability. Direct downward communication of information is the lowest level of employee voice and control is the highest level of employee voice, which can encompass joint decision-making with management and unions.

Table 7.1: HR managers' ratings of green HRM practices that support employee participation in environmental sustainability

	No plans to implement	Plan to implement in more than 12 months	Some measures	Comprehensive scheme	Not Available
Environmental targets & responsibilities Environmental targets & responsibilities clearly communicated to employees			HealthOrg UniversityOrg BusCo EnergyCo	CouncilCo RailCo	
Communication Open style of communication to encourage employees to discuss their environmental ideas			HealthOrg BusCo EnergyCo	CouncilOrg UniversityOrg RailCo	
Employee involvement Employees' participation, commitment, and capability central to organisational strategy			CouncilOrg HealthOrg UniversityOrg BusCo RailCo EnergyCo		
Workplace learning Encouraging the acquisition of new knowledge, sharing of information and ideas related to environmental issues		HealthOrg	UniversityOrg RailCo	CouncilOrg BusCo EnergyCo	
Problem solving Suggestions schemes and management systems for environmental sustainability		CouncilOrg	HealthOrg UniversityOrg RailOrg	BusCo EnergyCo	
Teamwork Work teams address environmental issues and implement sustainability initiatives				CouncilOrg HealthOrg UniversityOrg BusCo RailCo EnergyCo	
Financial involvement Profit sharing or bonus schemes to encourage WPEB	CouncilOrg HealthOrg UniversityOrg BusCo		EnergyCo		TrainCo
Union engagement Unions engage in collective bargaining; mutually beneficial outcomes				UniversityOrg BusCo RailCo EnergyCo	CouncilCo HealthOrg
Union participation Union participation in environmental management decision-making; joint problem solving	UniversityOrg			BusCo RailCo EnergyCo	CouncilOrg HealthOrg
N = 6					

Note: N = total number of respondents (HR managers). The information in Table 7.1 is from the HR survey.

The results, shown in Table 7.1, suggest that 'some measures' to communicate information on environmental targets to employees operated in four cases and a 'comprehensive scheme' operated in two cases. Ascending the EIP 'ladder', direct communication schemes involve

informal dialogue between employees and their managers and were found in three cases in 'some measure' and a 'comprehensive scheme' was reported to operate in three cases. All six cases reported 'some measures' were in place in their organisation to 'involve' employees in pro-environmental sustainability initiatives.

The qualitative interviewing provided further insight into communication and engagement practices to increase awareness and discussion on low-carbon initiatives. For example, as the Engagement Manager at RailCo explained:

> *It's about raising awareness in terms of the impact and creating buy-in, or creating space for people to get involved in that. We have environmental champions', but again because our workforce is reasonably dispersed we don't always have day-to-day face-to-face contact with people. It is about trying to create forums for people to get involved and share their ideas.* (Engagement Manager, RailCo, 2013.06.02)

Similarly, at UniversityOrg, the Sustainability Engagement Manager described energy engagement like this:

> *[W]e are talking about going into a building and speaking one-to-one to as many people as we can, running workshops…We want to inspire and encourage them (employees and students) to take action and we try to have a fairly comprehensive idea of what they could do in the building before we ask them to do anything, but also trying to take the ideas that they have and facilitate those projects and help them put their ideas into action…it is more of a following up and building relationships.* (Sustainability Manager, UniverstyOrg, 2013.07.21)

The qualitative evidence highlights the significance of formal and informal employee voice mechanisms. It suggests that a failure to engage or involve employees during change processes can contribute to unsuccessful outcomes.

Table 7.1 shows two cases reporting a 'comprehensive scheme' of problem solving arrangements and three cases reported a 'some measures' of employee voice through problem solving. In all six cases, a 'comprehensive scheme' of work teams operated to address environmental and decarbonising issues. This cluster of engagement processes involve managers and non-managerial employees in workplace learning, which can further make workers more engaged at their workplace by providing a 'rational' cognitive understanding of the need for pro-environmental behaviours and emission targets. With regard to workplace learning, three cases reported a 'comprehensive scheme' in place in their organisation, while HealthOrg indicated plans to implement some measures in more than 12 months. This evidence suggests that workplace learning plays an important role in improving environmental performance as a means of engaging and motivating workers to contribute new ideas, and to enhance their own development and sense of wellbeing. The research suggests that when workplace learning is embedded in EIP processes workers will have a better cognitive understanding of how they can contribute toward environmental sustainability.

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In the public sector cases, not surprisingly, there was no evidence of individualised financial incentives, which, in any case, can generate inequalities and expose the organisation to legal action. However, the energy case reported that 'some measures' were in place to encourage pro-environmental practices such as employee share ownership schemes. Interviewees did explain that improvements in environmental performance could lead to increased company profits and therefore potentially higher wages and job security in the long term. Furthermore, at RailCo there were unresolved union-management negotiations on the introduction of eco-driving technology and the potential for financial involvement directly linked to eco-driving performance.

Moving up the EIP 'ladder', Table 7.1 shows five out of the six cases reported a 'comprehensive scheme' of union engagement in collective bargaining and union participation in environmental management decision-making. Each case faced quite different contexts, but stability in arrangements for union representation in the public sector may explain the influence of the union voice on management practices. This thesis found that in some cases there was weaker support expressed by some respondents for increased trade union participation. As previously discussed, this may be explained by the lack of pro-active union involvement in environmental issues, the environment is typically not viewed within the scope of a traditional union agenda, and skepticism toward potentially intrusive union participation in environmental sustainability issues, which was the situation at CouncilOrg. At RailCo the unions were starting to play a pro-active role in environmental sustainability as the Head of Sustainability and Environmental Compliance explained:

> *The fact that ASLEF, in particular have come to us with proposals for an environmental course suggests that they see some benefits for their members in gaining environmental qualifications or in gaining environmental awareness. That could provide a pathway to a more consensual approach.* (Head of Sustainability and Environmental Compliance, RailCo, 2013.06.02)

The qualitative evidence suggests that both management and unions were working towards increased cooperation and joint-working on environmental management issues. It also highlights the role of communication and training in supporting environmental management. At UniversityOrg, on the other hand, the Deputy Director of Human Resources expressed qualified support for union participation like this:

> *I think there could be an advantage to inviting unions to be involved in something, but as potentially as one of many. I wouldn't see it as something that was a kind of two-sided thing where we have unions and university working together in sort of partnership of two equals. It would be more likely inviting unions if they wanted to be involved in a broader group as one of many stakeholders.* (Deputy Director of Human Resources, UniversityOrg, 2013.08.22)

This suggests that increased union participation is viewed positively and is generally welcomed at UniversityOrg. However, some senior managers, particularly in the public sector cases, considered unions as one of many stakeholders that could contribute to workplace environmental sustainability.

7.1.1 Environmental Communication

Organisations use a range of techniques to engage employees in environmental sustainability initiatives and change programmes. The provision of information and the use of communications, low-level voice mechanisms are the most common forms of employee involvement mechanisms used to promote environmental sustainability in this thesis. Table 7.2 shows the use of environmental communication methods and training. The most effective methods are shown in bold and all uses of training are shown in italics.

The main finding that emerged from the data is that environmental communication methods tend to be similar across different environmental sustainability initiatives within the same organisation. The choice of method tends to match the broader management style found within the case study organisation, but there is some commonality within and across organisations. For example, when attempting to influence employee behaviours such as switching off electrical equipment and recycling, communication methods usually involve informal face-to-face dialogue between employees and their line manager.

In each of the six case studies managers and employees were also asked to rate their employers on the extent to which they considered various direct and indirect communication mechanisms were used to support environmental sustainability. Table 7.3 shows managers' and employees' perceptions of communication on environmental sustainability. The findings are presented below.

Table: 7.2: Use of environmental communication methods and training

	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo
Energy	**Green Wardens** Word of mouth/peer-to-peer *E-learning* Signs/Notice board	Signs/Notice board Word of mouth/peer-to-peer	**Word of mouth/peer-to- peer** Signs/Notice board *Presentations, training & workshops*	Signs/Notice board	Intranet **Signs/Notice board**	Intranet Signs/Notice board *E-learning*
Waste reduction & recycling	**Signs/Notice board**	**Promotion stands in reception areas** Signs/Notice board Word of mouth/peer-to-peer Site visits (e.g., recycling plant	**Word of mouth/peer-to- peer** Signs/Notice board	Signs/Notice board	Signs/Notice board **Road show/ Intranet**	Intranet **Signs/Notice board**
Transport	Signs/Notice board	Signs/Notice board *Presentations, training & workshops*	Signs/Notice board *Presentations, training & workshops*	*Eco-driver training* **Eco-driving review** Signs/Notice board	**Annual eco-driving review** *Eco-driver training* *Union led eco-driver education* Eco-driver tips **Signs/Notice board**	**Promotion stands in reception areas** *Eco-driver training* Eco-driver tips Signs/Notice board **Intranet No Fly Month**
Bio-diversity		*Presentations, training & workshops*	*Presentations, training & workshops*		**Providing employee /community funding for biodiversity projects (e.g., adopt a station initiative)**	Participating in regional planning **Supporting employees to volunteer for biodiversity projects** Providing community funding for biodiversity projects
Food	*Presentations, training & workshops*	*Presentations, training & workshops*	*Presentations, training & workshops* Site visits (e.g., organic farm)			
Use of teams & EIP methods	*New employee induction* **Sustainability Team** (senior-level cross functional group) **Green Wardens Eco Schools** Publication environmental performance	*New employee induction* **Employee champions and sustainability groups Union green representatives** Publication environmental performance	**Sustainability Advisory Committee** (senior-level cross functional group) **Department of Social Responsibility & Sustainability** Promotion stands at events **Employee champions and sustainability groups Awards and competitions Union green representatives** Publication environmental performance	**Community Engagement Team**	*New employee induction* **Monthly employee meetings Employee performance review** (bi-annual) **Employee champions and green team** Awards and competitions Publication environmental performance	*New employee induction* **Weekly 'Health, Safety, & Environment' employee meetings Employee performance review** (annual) Awards and competition **Employee innovation scheme** Employee green badge Publication environmental performance

Note: A content analysis of the interview transcripts was undertaken to establish common themes in the text and identify the types of communications and training methods used across the case studies. The most effective methods in the six case studies are shown in bold and all uses of training are shown in italics.

Table 7.3: Managers' and employees' perceptions of communication on environmental sustainability averaged and rank ordered

Rank order:	*Managers*						*Employees*		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
1. Notice boards	Some of the time	Some of the time	Some of the time	Most of the time	Most of the time	Most of the time	Some of the time	Some of the time	N/A
2. Newsletters or mailings	Most of the time	Some of the time	Some of the time	Some of the time	Most of the time	Most of the time	Most of the time	Some of the time	N/A
3. E-mail	Most of the time	Most of the time	Some of the time	Some of the time	Most of the time	Some of the time	Most of the time	Some of the time	N/A
4. Company Intranet	Most of the time	Some of the time	Some of the time	Never	Most of the time	Most of the time	Some of the time	Most of the time	N/A
5. Communication with first line-managers	Most of the time	Some of the time	Some of the time	Some of the time	Most of the time	Most of the time	Some of the time	Some of the time	N/A
6. Team briefings	Most of the time	Some of the time	Some of the time	Occsly	Most of the time	Most of the time	Some of the time	Some of the time	N/A
7. Department meetings	Some of the time	Some of the time	Some of the time	Occsly	Most of the time	Most of the time	Some of the time	Some of the time	N/A
8. Communication with "green" champions	Some of the time	Most of the time	Some of the time	Some of the time	Some of the time	Some of the time	Most of the time	Some of the time	N/A
9. Any downward communication	Some of the time	Some of the time	Some of the time	Occsly	Most of the time	Some of the time	Some of the time	Some of the time	N/A
10. Employee survey	Some of the time	Some of the time	Some of the time	Occsly	Most of the time	Some of the time	Some of the time	Some of the time	N/A
11. Any face-to-face meeting	Occsly	Some of the time	Most of the time	Occsly	Some of the time	Some of the time	Some of the time	Occsly	N/A
12. Suggestion schemes	Some of the time	Some of the time	Some of the time	Occsly	Some of the time	Some of the time	Some of the time	Some of the time	N/A
13. Any written two-way communication	Some of the time	Occsly	Some of the time	Occsly	Some of the time	Some of the time	Occsly	Occsly	N/A
14. Communication with non-union representatives	Occsly	Some of the time	Some of the time	Occsly	Occsly	Some of the time	Occsly	Occsly	N/A
15. Meetings between senior managers and the whole workforce	Some of the time	Occsly	Occsly	Never	Some of the time	Occsly	Occsly	Occsly	N/A
16. Director-level presentation	Occsly	Occsly	Some of the time	Occsly	Some of the time	Occsly	Occsly	Occsly	N/A
17. Communication with union representatives	N/A	Occsly	Never	Occsly	Occsly	Occsly	Never	Occsly	N/A
N =	4	5	8	7	8	4	11	26	0

Note: N = total number of respondents (environmental managers, HR managers, managers and employees). N/A = not available. The information in Table 7.3 is from the environmental management, HR, management and employee surveys.

The most common environmental communication methods reported include signs and notice boards that provided information on energy consumption levels. Information was used to improve awareness and incentivise employee pro-environmental behaviour. Also common was the appointment of environmental 'champions' and 'green teams' to encourage others to change. The evidence highlights the importance of direct communication and the enabling role of line managers in enacting and embedding pro-environmental behaviours inside the workplace. The

findings also show the use of multiple communication mechanisms across the organisation. Informal communication between employees and line managers provides an opportunity for employees to have their concerns heard, to ask questions and to learn about opportunities to become involved.

Table 7.3 shows that communication with first line-managers is ranked fifth. Line managers are central to embedding pro-environmental behaviours because they commonly act as the closest senior role model to employees, influence the immediate work climate where they supervise, and may engender greater confidence and trust than less accessible senior managers.

The final key finding is the benefit of using multiple communication methods to provide relevant information and encourage two-way communication and feedback. In addition to the communication methods identified in Table 7.3, other methods used were web-based information, films, 'green' emails, roadshows, personalised information such as individualised travel plans, workshops and presentations, drop-in sessions, and site visits (e.g., recycling plant).

7.1.2 Organisation's Commitment to Employee Participation in Environmental Sustainability

This thesis explored perceptions of organisation's commitment to employee participation in environmental sustainability from the perspective of all respondents within the same workplace. The findings are presented in Table 7.4 and Table 7.5.

Table 7.4: Managers' and employees' perception of organisation's commitment to employee participation in environmental sustainability in the past 5 years

	Managers						*Employees*		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Significantly decreased	0	0	0	0	0	0	0	0	0
Somewhat decreased	0	0	0	0	0	0	0	0	2
Business as usual / no changes	0	0	2	1	0	4	5	3	4
Somewhat increased	3	4	5	5	2	2	5	16	6
Significantly increased	2	2	2	2	6	0	1	9	0
N =	5	6	9	8	8	6	11	28	12

Note: N = total number of respondents (HR managers, managers and employees). The information in Table 7.4 is from the HR, management and employee surveys. The table was developed originally for this thesis.

Table 7.5 Managers' and employees' perception of organisation's commitment to employee participation in environmental sustainability in the next five years

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Will decrease significantly	0	0	0	0	0	0	0	0	0
Will decrease somewhat	0	0	0	0	0	1	1	0	1
Business as usual / no changes	0	4	1	0	0	1	5	3	5
Will increase somewhat	2	2	7	7	3	4	4	13	4
Will increase significantly	3	0	1	2	5	0	2	12	2
N =	5	6	9	9	8	6	12	28	12

Note: N = total number of respondents (HR managers, managers, and employees). The information in Table 7.5 is from the HR, management and employee surveys. The table was developed originally for this thesis.

The results show that in most of the case studies the majority of respondents indicated that employee participation in environmental sustainability had 'somewhat increased' in the past five years. For example, at RailCo the majority of managers reported that employee participation in environmental sustainability had 'significantly increased'. Looking towards the future, in most of the cases the majority of participants responded that EIP on issues of environmental sustainability 'will increase somewhat' in the next five years. Again, at RailCo the majority of managers indicated that employee participation in environmental sustainability 'will increase significantly'. In contrast, at HealthOrg the majority of all respondents reported 'no changes' to employee participation in environmental sustainability. The already high level of employee participation, through the use of individual champions and a sustainability committee, could explain this finding at HeathOrg. The following section examines the architecture of employee participation in the six case studies and the approach is influenced by the work of Marchington and Wilkinson (2005) primarily focusing on social processes.

7.1.3 Information, Downward Communications Methods

Table 7.3 shows that the most common methods of environmental communication between managers and employees were notice boards, newsletters and intranets. This thesis found that the least common method of communication was the posting of environmental information on an organisations' internet where, especially in the bus, train and energy cases, a substantial number of employees may have found access difficult because many did not use computers in the course of their normal work duties.

Noticeboards and Newsletters

Table 7.3 shows that the most common method of environmental communication was notice boards. Another common method of downward communication is the company newspaper or magazine, ranked second.

Workforce Meetings

Workforce meetings are a higher level of involvement than 'voice information' posted on workplace notice boards. Meetings between employees and managers offer an opportunity to explain managerial decisions and for employees to ask questions. Table 7.3 indicates that department meetings, any face-to-face meetings, and meetings between senior managers and the whole workforce ranked seventh, eleventh and fifteenth respectively. In the majority of cases respondents indicated that department meetings on environmental sustainability took place 'some of the time', with managers. At RailCo meetings occurred 'most of the time'. In the majority of cases respondents indicated that meetings on environmental sustainability between senior managers and the whole workforce took place 'occasionally', but managers at BusCo indicated that they had 'never' occurred. In the six cases, one possible explanation for the variation in the incidences of meetings is size of the workforce. The practicalities may necessitate holding meetings between senior managers on a departmental basis.

Team Briefings

Team or group briefings are meetings between front line-managers (FLMs) and the employees for whom they are responsible. Table 7.3 shows that team briefings ranked sixth. In most of the cases respondents indicated that team briefings on environmental sustainability occurred 'some of the time', with the exception of BusCo where managers reported that briefings had taken place only 'occasionally'. The qualitative evidence indicates lower levels of direct employee participation and informal information sharing. At BusCo, for example, the management team more frequently adopted formal consultation with union representatives as the preferred management style. In contrast, at RailCo and EnergyCo team briefings were one of the most common forms of direct communication between managers and employees. For example, all field operations employees (linesmen) participated in mandatory weekly health, safety and environmental management meetings and all train station employees participated in a daily 'start-of-shift' briefings.

Written Forms of Upward Communication

A number of mechanisms exist to provide opportunity for upward communication from employees to managers in written form. Table 7.3 indicates that e-mail and employee surveys ranked third and tenth. The results indicate that the selected case studies made regular use of e-mail to communicate with employees on environmental sustainability. The qualitative data indicated, however, that a substantial number of employees may have been excluded because they lack regular access to a computer as part of their normal work duties. This communication barrier was highlighted in the bus, train and energy cases.

Employee attitude surveys were used in all of the six cases investigated. But it is important to note that the environmental element of the attitude survey varied considerably across the workplaces. At CouncilOrg and HealthOrg formal employee surveys had been conducted over the past 12-months, and included a dedicated environmental section. But at BusCo formal annual employee surveys had only recently been introduced, and did not include a dedicated environmental section. Finally, Table 7.3 indicates that suggestion schemes ranked twelfth. Apart from BusCo, employee voice via suggestion schemes provided the opportunity for upward written communication on environmental issues from employees to managers.

7.1.4 Upwards Problem-solving Forms of Voice

Upward problem-solving is a higher-level employee voice mechanism, involving managers and workers, set up to examine and resolve specific issues affecting the workplace. Employee voice via upward problem-solving teams provide an opportunity for employee input into developing a sustainable low-carbon strategy. To identify respondents' perceptions of involvement in environmental sustainability decision-making, this thesis probed the extent to which managers solicited employees' views and whether, in turn, employees' considered that managers took their views into account when making decisions. The survey results are shown in Table 7.6.

Table 7.6: Managers' and employees' perceptions of involvement in environmental sustainability decision-making

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Very dissatisfied	0	0	0	0	0	0	0	1	0
Dissatisfied	0	0	1	0	0	1	1	1	3
Neutral	1	3	2	4	1	1	4	14	7
Satisfied	2	0	3	3	4	1	5	10	3
Very satisfied	0	1	1	0	2	0	2	2	1
N =	3	4	7	7	7	3	12	28	14

Note: N = total number of respondents (managers and employees). The information in Table 7.6 is from the management and employee surveys.

In all six case studies the results suggest that a greater percentage of managers were satisfied with their level of involvement in environmental decision-making compared to employees. For example, at RailCo 85 per cent of managers responded either 'satisfied' or 'very satisfied', while only over half (57 per cent) of employees indicated that they were 'neutral' or 'dissatisfied' with their involvement in environmental decision-making. However, as previously discussed in Chapter 6, at RailCo and UniversityOrg environmental professionals represented the majority of manager respondents. Hence, it is expected that managers responsible for sustainability would report higher levels of satisfaction.

With regard to employee satisfaction with environmental decision-making, at HealthOrg 58 per cent of employees indicated either 'satisfied' or 'very satisfied'. In contrast, at EnergyCo 71 per cent of employees indicated either 'neutral' or 'dissatisfied'. It is significant to note that at HealthOrg, which reported higher levels of team working and employee participation in environmental sustainability, a larger number of respondents indicated that they were satisfied with their level of involvement in environmental decision-making. The qualitative evidence also suggests higher levels of employee satisfaction in environmental decision-making at HealthOrg compared to EnergyCo. The final key finding is that in all six cases employees overall reported relatively modest levels of employee voice and satisfaction in environmental sustainability decision-making.

Environmental Champions and Teams

The use of individual or group environmental champions varied across the case study organisations. For example, at RailCo 'Environmental Champions' were seen as an important part of their sustainability strategy. The company reported 160 "Environmental Champions"

who co-ordinate sustainability initiatives at a workplace level. At HealthOrg and UniversityOrg employee-led 'sustainability groups' were set up for a similar purpose, to give workers the chance to devise and implement activities, and to learn from the results. Management-based teams were also in place at CouncilOrg with a slightly stronger but intended focus on carbon reduction than on employee engagement. A number of organisations relied on 'informal champions' to promote the benefits of pro-environmental behaviour (e.g., CouncilOrg, BusCo, EnergyCo). These employees were usually early adopters of low-carbon behaviour, particularly where the change involved infrastructure changes such as alternative transport methods.

While the impact of environmental champions and employee-led teams was evident in all six cases, qualitative interviews exposed challenges. At EnergyCo, for example, the company experimented with 'Sustainability Champions' in 2006 but had to discontinue because of time related difficulties. The CRC and Energy Efficiency Manager at EnergyCo spoke of the challenges that exist:

> *It was a trial project that was run for a year … I think there was maybe a bit of conflict between the environmental champions and team managers in terms of the environmental champions were obviously using some of their time to do environmental related stuff the team managers maybe weren't overly happy with that, but also in respect to the stuff that the ideas that were coming through the environmental champions weren't always actually being implemented as well. So then the environmental champion would get frustrated by the fact that their ideas were not getting implemented so I think there was conflict in two, three areas … in the end we decided against it because we wanted to focus on one key contact at each site that we would liaise with to keep the number of contacts that we had to a smaller level.* (CRC and Energy Efficiency Manager, EnergyCo, 2014.06.24)

Similarly, at RailCo line-manger expressed concern over releasing time:

> *We have got a network of Environmental Champions ... We recently held a forum with the champions and there were a couple of noticeable absentees. They haven't been informed of the team meeting by their line-manager or been blocked going … we still have the conflict with the day job.* (Head of Sustainability and Environmental Compliance at RailCo, 2013.06.02)

This evidence that the '*line-manager...blocked [champion] going'* is significant because it illustrates clearly that line-managers not only act as "gate-keepers" of information but enact HR policy of appointing environmental champions. Responding to the question, *'How could this organisation improve employee participation in environmental management?'* a manager at HealthOrg commented, *'Improved support across middle management leading to increase in green or energy champions'* (Anonymous, Management Survey). The case study findings show that successful sustainability initiatives were present in those organisations that gained support from line mangers and front line employees without having to rely simply on formal or informal environmental champions. This underscores the importance of early employee engagement in workplace sustainability when new employees can contribute to shaping new initiatives and act as positive role models to the rest of the workforce.

7.1.5 Financial Participation

Financial participation can be a mechanism that provides employees with a stake in the environmental performance. In this thesis, two types of incentive schemes were examined: employee share ownership and payments by results. Table 7.1 shows that only one of the six of the case studies, EnergyCo, had implemented 'some measures' in financial participation. In four other cases HR managers reported 'no plans to implement', and at RailCo, where as previously noted there were unresolved union-management negotiations on the introduction of eco-driving technology, financial participation information was 'not available'.

Employee Share Ownership

Employee share ownership involves workers acquiring shares in their employer so that they become shareholders. Arguably, employee share ownership can change employee attitudes and behaviour with positive outcomes for environmental performance. In the train and energy cases participants indicated that employee share-based schemes could encourage workplace pro-environmental behaviour:

> *From my experience as I progressed through this organisation, certainly when I was out more and meeting more people, environmental management wasn't a big priority to the extent that a lot of stupid practices were going on. A lot of, "it's the Railway's money, it's not really making a difference to me". I am not sure what the percentage of share ownership is amongst our employees. But there are shared ownership schemes. But my anecdotal feeling, it wasn't a big issue. Maybe it's a top down approach in that safety is our number one priority, punctuality was up there as an equal priority and environmental management was sacrificed along the way.* (Head of Sustainability and Environmental Compliance at RailCo, 2013.06.02)

This evidence suggests that employee share ownership could influence employee attitudes by making environmental management a *'priority'* and encouraging pro-environmental behaviour. Similarly, at EnergyCo the Engineering Team Manager spoke of the benefits of employee share ownership: it *'helps keep the staff working towards the company's goals'* (2014.04.27). He further explained:

> *A lot of the older guys have a lot of money invested in the company through share schemes … a lot of people here do have a lot of interest in that area. There are schemes that the company gives employees. They will double your inputs, for example. So it is obviously a big incentive.* (Engineering Team Manager, EnergyCo, 2014.04.27)

This suggests that share-based schemes could be used to pursue corporate objectives linked to employee attitudes and environmental performance.

Pay for Environmental Performance

Setting targets and pay-for-environmental performance (PEP) are two reported practices used in the private sector case study organisations to achieve desirable outcomes. These HR tools can incentivise managers to invest more time and resources into carbon reducing projects. This

thesis, however, identified a number challenges with PEP schemes. For example, at RailCo there were unresolved union-management negotiations on eco-driving technology and performance-related financial participation. The Head of Sustainability and Environmental Compliance at RailCo suggested that, *'There is certainly scope for consensus…if we had business benefits through cooperation, through a consensual approach, then maybe there is an opportunity for gainshare there'* (2013.06.02). Commenting on the perceived lack of management support for PEP the Union Representative explained:

> *Where management have made a mess is they didn't engage with the unions. It was just, "right that sounds like a good idea we can save us a few quid we will just tell them to do it!" And right away there is a bit of animosity between the staff and management towards the whole ozone, eco-driving … There are guys that are not interested so the most beneficial way to encourage them is to give them a bonus.* (Train Driver, Union Representative, RailCo, 2013.07.31)

This evidence suggests that financial incentives might help to establish worker perceptions of low-carbon behaviours as being part of the drivers' job, rather than an optional burden, and thus *'encourage'* drivers to become more *'interested'* in eco-driving. In the public sector cases, unsurprisingly, there was no evidence of individualised performance-related financial participation.

Devolved Energy Budgeting and Shared Savings Schemes

The qualitative data suggests that energy efficiency is more likely to be achieved when users have financial incentives to implement energy savings measures. This can be achieved by (1) the devolution of energy budgets to organisational units or departments or (2) shared savings schemes that provide rebates or penalties based on their performance compared with a baseline. The latter - arguably akin to a collective employee PBR scheme - has the potential advantage of providing a financial incentive to encourage users to make energy savings, for example, whilst avoiding the administrative responsibility of devolved budgeting. It is significant to note that in the public sector cases participants did express support for devolved energy budgeting. For example, a manager at HealthOrg commented, *'Empowerment/ownership of resources consumed at work be it energy'* (Anonymous, Management Survey).

Creating positive perceptions of costs and benefits, and making employees accountable and responsible for costs is one of the strongest drivers for low-carbon behaviours (Cox et al., 2012; Schleich and Gruber, 2008). At UniversityOrg, participants articulated the three significant challenges of implementing devolved energy budgeting like this, *'challenges would be about the bureaucracy of running it being more, costing more than the value of what you save'* (Deputy Director of Human Resources, UniversityOrg, 2013.08.22). And the second challenge, originating from the

lack of information about energy consumption patterns and the poor quality of energy data available, explained the Sustainability Engagement Manager, *'people didn't have very great confidence in the energy data … there was lots of data discrepancies that meant that it just wasn't fair…the metering isn't quite there'* (UniversityOrg, 2013.07.21). The findings suggest that high quality data and transaction costs associated with energy savings potentials are key barriers in private service organisations (Schleich and Gruber, 2008: 452).

The third significant challenge identified through qualitative interviews stemmed from the negative perceptions of benefits for employees and self-interest of some who apparently actively *'turned things on'* with the intention of *'driving up electricity bills'*. Developing positive perceptions of costs and benefits for these employees would, it was claimed, enable *'massive savings in the first year'* (School Administrator and Union Representative, UniversityOrg, 2013.08.08). Overall these challenges highlight some of the initial technological, informational and human challenges to devolved energy budgets and shared saving schemes. It is significant to note that employees are not always motivated primarily by financial incentives. The organisation's culture can incentivise low-carbon initiative and behaviours. For example, at UniversityOrg the Deputy Director of Human Resources observed, *'people don't necessarily think in term of personal gain, they are more likely to think in terms of research funding, or funding to buy in teaching support to release people to do more research'* (2013.08.22). In this context, if energy savings were earmarked for research or perhaps a charity it may better incentivise employees.

7.1.6 Representative Participation

Two types of indirect participation via employee representatives were studied, union environmental representative and employee-union consultative committees.

Union Environmental Representatives

Table 7.3 shows that communication with union representatives rank the least common method of environmental communication, ranked seventeen. It is important to note that an Environmental Representative is not an Environmental Champion, but an employee representative elected by the union's members. The survey results indicate that Environmental Representatives were present in only two out of the four cases - HealthOrg and UniversityOrg. At RailCo the train drivers' union ASLEF had recently approached senior management about supporting an environmental training programme. The Employee Relations Manager at RailCo explained:

We are in negotiations at the moment. They want us to commit, because it is a considerable commitment to a 3-day training to get their local Health and Safety reps as Environmental reps as well. Which means we would have to commit to more time off for them to do environmental audits. The question for us is how do we then tie that in with (the environmental management department) and so on so there is quite a few questions for us about making sure we get what we want out of it and being able to deliver that for the trade unions. But that is entirely their project that we are buying into rather than the other way around. (Employee Relations Manager, RailCo, 2013.06.11)

That the company '*would have to commit to more time off for them to do environmental audits'* suggests that management remained unconvinced of the positive benefits of supporting union environmental representatives and investing in the capacity of union-led workplace learning. For TUSDAC, a sustainable workplace needs to broaden the shop stewards' responsibilities to include helping workplaces to support employees to adopt low-carbon behaviours, conducting '*environmental audits',* and ensuring that environmental issues are incorporated in the bargaining agenda.

Joint Consultative Committees

There is strong evidence of joint union-management decision-making in low-carbon initiatives at HealthOrg, while at both RailCo and UniversityOrg the evidence is weaker. The Wellbeing and Equalities Manager and Shop Steward explained:

This goes back to proper partnership working … Our structure … We have a top-level partnership forum that is manned by representatives in all the unions and representatives from management around the table. There are subgroups that come out of that … the Sustainable Development Plan would be worked on by a subgroup specifically the Environmental Group. The end result is going to go to the Partnership Forum for sign off. So I send it to my Joint-Shop Stewards Committee, it gets fired out to the members, we come back with comments, I feed those comments back to the Environmental Group, which adds to the form of this document. The finalised document goes to the (HealthOrg) Partnership Forum for signed off. And once it is signed off it gets published (on the Intranet). (Wellbeing and Equalities Manager and Shop Steward, HealthOrg, 2013.10.07)

At RailCo there were plans to integrate environmental management into existing committee structures. For example, the Employee Relations Manager at RailCo noted:

Let us start with the trade unions. Although we are talking almost every day we do have a series of formal meetings one of them being a quarterly-meetings, which is done by the Managing Director and the full-time officials of the trade union, which has a set agenda. It is me that facilitates it, but it has a set agenda and if there is anything that we would then want to put out we would then perhaps at that meeting do a presentation on it so we can get the buy-in from full-time officials so they know what is going on and we would put that out to the rest of the company. We have also got quarterly safety meetings, which I think in the future, my idea would be to extend, again in-line with what we are doing with the Safety Reps, it to Safety and Environmental quarterly meetings. So if you have got any issues over the past three months this is safety or environmental concerns you would raise it at that meeting. (Employee Relations Manager. RailCo, 2013.06.11)

At UniversityOrg a joint consultive committee (JCC) responsible for environmental issues existed although union shop stewards were not involved. However, the School Administrator and shop steward spoke of the need for increased union participation:

(M)aybe the unions should be on SEAG. If nothing other than it is somebody else within the university who obviously if they are the Green Rep they have an interest in it and you have then got the network of things going out through the Union Reps as well. It is a way into another network that exists within the organisation and there I some things that

This statement, suggesting that *'most of the things with sustainability are about making the workplace a better place to be so the unions ought to be involved',* adds weight to the premise that JCCs are a strong influencer in making low-carbon initiatives successful. Their presence in the workplace helps to build pro-environmental values, allows the sharing of energy and performance data and, through dialogue and group learning, JCCs make decarbonising initiatives part of the organisations culture and routines. Across the six cases JCCs operated with union representatives, non-union representatives, and a mixture of union and non-union representatives. The next section investigates the role played by unions in supporting low-carbon behaviours and workplace sustainability.

7.2 Employment Relations and the Union Role in Workplace Sustainability

Table 7.7 shows respondents' perceptions of relations between managers and employees. Table 7.8 shows respondents' perceptions of relations between managers and unions. These results show that in five of the six case studies the majority of respondents indicated that managers and employee relations were 'good' or 'very good'. Across the six workplaces, 73 per cent of managers and employees reported that relations between managers and employees were 'good' or 'very good'. The nature of management-employee relations was expressed like this:

> *Employee relations are generally very good. Now there are two distinct factors in that. One is that we don't have the problem of underpaying people … Our drivers are the best-paid drivers outside of London. So what that means is it doesn't make them engaged or motivated but what it does is it stops it … I think it has become a bit cliché now, but the emotional contract between the employee and the business is pretty strong, and the trade unions are generally aware of that and they recognise that and so the employee relations environment is quite good.* (Head of Human Resources, BusCo, 2013.08.21)

> *There is good engagement, good commitment, and loyalty … It is a very devolved institution almost right down to individual people have a lot of freedom quite often and value that freedom, but the implications from employee relations are that it is very much a collaborative mode of working rather than a command and control kind of model.* (Deputy Director of Human Resources, UniversityOrg, 2013.08.22)

The qualitative findings provide further insight on how relations between managers and employees were perceived in the case studies. For example, at BusCo participants spoke of how management-employee relations were *'generally very good'* and this was attributed to high pay and good working conditions, *'pride in the business'* and the *'emotional contract'*. At UniversityOrg the HR director spoke of *'good engagement, good commitment, and loyalty'* and of *'collaborative mode of working*

rather than command and control'. This is significant, as perceptions of manager-employee relations help to secure employee support for initiatives and to transform the culture.

Table 7.7: Number of respondents' (managers' & employees') perceptions of the relationship between managers and employees

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Very poor	0	0	0	0	0	0	0	0	0
Poor	0	0	0	0	1	0	1	0	5
Neutral	2	1	2	1	1	0	4	7	3
Good	3	3	7	8	7	5	7	23	5
Very good	0	1	1	0	0	0	1	6	1
N =	5	5	10	9	9	5	13	36	14

Note: N = total number of respondents (HR managers, managers and employees). The information in Table 7.7 is from the HR, management and employee surveys.

Table 7.8: Number of respondents' (managers' & employees') perceptions of the relationship between managers and unions

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Very poor	N/A	0	0	0	0	0	0	0	1
Poor	N/A	0	1	0	2	1	0	1	3
Neutral	N/A	1	7	1	3	2	8	13	4
Good	N/A	4	1	7	4	2	4	19	3
Very good	N/A	0	1	0	0	0	0	2	1
Don't know	N/A	0	0	0	0	0	1	0	2
N =	N/A	5	10	7	9	5	13	35	14

Note: N = total number of respondents (HR managers, managers and employees). N/A = not available. The information in Table 7.8 is from the HR, management and employee surveys.

However, when comparing managers' and employees' perceptions within the same workplace, both survey responses and qualitative interviewing exposed differences. Employees were generally less positive. At EnergyCo, for example, 35 per cent of employees indicated that manager-employee relations were 'poor', while 100 per cent of mangers reported that relations were 'good'. The Engineering Team Manager at EnergyCo explained:

> *Members of staff the older people … are quite disgruntled by what has been going on with all this performance related pay. They feel that maybe there has been not as much trust and it has not been very fair the fact that they are getting less money for doing the same amount of work … People here are expected… to work long hours when storms kick off and a lot of folks myself included will just go out and work it doesn't matter. On Valentines Days there was a bad weather storm I was out for a meal and I just left. Whereas I know a lot of people are getting to a stage where they are maybe not so happy to do that anymore because of the way they are being treated in the workplace.* (Engineering Team Manager, EnergyCo, 2014.04.27)

That some employees were *'quite disgruntled'* suggests that overall management-employee relations had been negatively impacted by recent changes. As previously discussed above, this could be explained by the dissatisfaction of some workers, particularly engineering and field operations employees (linesmen), with the introduction of the new performance related pay scheme.

In this thesis, management-union relations in five of the six case studied the majority of respondents reported that relations were 'neutral' or 'good'. For example, in the transport cases the majority of managers and employees reported that relations were 'good'. A shop steward put it like this:

> *It depends on the level… at a local level we get on well with our manager. When you get further up the tree it is basically war all the time. We meet with our manager and if we fail to agree on anything then it goes to the Company Council level … I would say that the Company Level and higher is basically war all the time. I would say at every level with management there is certainly a lack of trust and I would say collectively RailCo are shocking to work for… The only thing that disappoints me is that management still doesn't seem to trust us when it comes to things that are a mutual benefit to both sides. It seems to me a one-sided, sneak it approach to it until somebody from the union side asks a question, "what about the savings?"... Whereas if there was openness and honestly from the management then I know for a fact that the guys in the union would be a lot more open towards accepting these sort of things.* (Driver and Shop Steward, RailCo, 2013.07.31)

> *Our union I wouldn't say they are derelict in their duties, but they are not focusing on what I think a trade unions agenda really should be. If you look at their agenda, their agenda is their own pay and terms and conditions, and digging their heels in around that, and they have far bigger national agendas that they should be addressing. They don't nag us about Health and Safety at all … The trade union relationship here is good, but I am not a big fan of the reps because they don't give me a hard time. I want them knocking on my door telling me I have health and safety problem. Two drivers a week get assaulted and that is our average. That is two too many. I want to stop that, but they never mention it to me. That is two of their members a week get assaulted, but every year when it comes around to pay they are up here beating their chests. I just don't think they have it right, but I am happy for it to bubble along as it does.* (Head of Human Resources, BusCo, 2013.08.21)

This suggests that although management-union relations at RailCo were antagonistic, the unions were playing an active role in environmental management. For example, the shop steward at RailCo cited the introduction of eco-driving and spoke about the '*lack of trust*' when negotiating '*things that are a mutual benefit to both sides'*. In contrast, relations at BusCo were *'good'*, but unions were not active in environmental management. At EnergyCo, which reported low levels of union involvement in environmental decision-making, 28 per cent of employees indicated that relations between managers and unions were 'poor' or 'very poor'. Commenting on union-management relations and the potential role of trade unions in contributing to environmental management, participants in the focus group interview commented:

> *I have had no input from any unions on the environment* (Networks Manager, EnergyCo, 2014.04.27).

> *They can't help us with wages never mind the environment* (Linesman D, EnergyCo, 2014.04.27)

> *We very seldom hear from the unions* (Networks Manager, EnergyCo, 2014.04.27).

> *Never seen them* (Linesman D, EnergyCo, 2014.04.27)

This is significant, as it suggests that although unions could be instrumental in mobilising member support for low-carbon initiatives, participants reported that unions had only limited influence on management practice. The qualitative evidence also explains how the 'poor' relations limited the opportunity for unions to jointly work with managers on building workplace environmental sustainability. At UniversityOrg, union involvement in environmental decision-making was reported as 'modest', and the majority of managers indicated that management-union relations were 'neutral'. Management-union relations were described in this way:

> *I would say generally the union relations are good we have regular formal meetings, but also informal, or relatively informal ways of working. We try and work on policies and so on in partnership rather than it is very rarely a sort of confrontational type negotiation relationship … Our formal recognition agreement are ancient, but we went through a reward modernisation exercise back in it ended in 2006 and at that time we really did put down in writing our intention to work in partnership. There is certainly between those directly involved in terms of the unions and HR people an understanding that our intention is to work in partnership but we don't, we haven't got a signed-up partnership agreement, but we will talk about it and we will tell people if we don't think we are working in partnership on a particular issue…We have occasional moments of conflict but on the whole it is a kind of pick up the phone if there is an issue kind of relationship.* (Deputy Director of Human Resources, UniversityOrg, 2013.08.22)

In contrast to the quantitative data that reported 'neutral' relations, in interviews management-union relations were described as *'good'* and, moreover, there was a willingness of both parties to '*to work in partnership'* in the absence of *'a signed-up partnership agreement'*. In explaining the two contradictory findings, it should be noted that environmental practitioners constituted the majority of manager respondents and therefore it is possible they had little experience or awareness of union voice in their workplace. This thesis highlights the politics of undertaking case study research on management-unions relations, which was illustrated by the fact that CouncilOrg's survey findings were omitted from the data set at the insistence of the management team. Overall, the research evidence suggests 'stable and constructive' management-union relations in five of the six case studies.

7.2.1 Direct, Indirect and Informal Forms of Employee Involvement and Participation

The focus of this chapter is on the ways in which workers and unions can contribute to the delivery of a sustainable low-carbon workplace. Table 7.9: show the survey results of respondents' perceptions of employee participation in environmental management. In most of the case studies the majority of respondents indicated that consultation on workplace changes as a result of environmental management decisions occurred 'some of the time'. The majority of managers and employees reported that environmental sustainability changes were imposed either 'some of the time' or 'occasionally' without employee consultation. HealthOrg's respondents, however, reported higher levels of employee participation in environmental sustainability, where

the changes were only imposed 'occasionally' without employee consultation. The qualitative evidence garnered in the interviews supports this view. Table 7.9 also shows that in all case study organisations there was some degree of consultation, with the exception of the bus company where managers' indicated that formal consultation with employees had 'never' occurred.

Table 7.9: Patterns of consultation in response to changes brought about by environmental management averaged

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Change imposed without employee consultation	Some of the time	Occsly	Some of the time	Some of the time	Occsly	Most of the time	Occsly	Some of the time	Some of the time
Informal consultation with employees	Some of the time	Some of the time	Some of the time	Occsly	Most of the time	Some of the time	Some of the time	Some of the time	Occsly
Formal consultation with employees	Occsly	Some of the time	Some of the time	Never	Most of the time	Some of the time	Occsly	Occsly	Occsly
Formal consultation with trade unions	N/A	Some of the time	Occsly	Occsly	Some of the time	Occsly	Occsly	Some of the time	Occsly
Briefing employees before change took place	Some of the time	Some of the time	Some of the time	Some of the time	Most of the time	Some of the time	Some of the time	Some of the time	Occsly
Briefing employees after change took place	Some of the time	Occsly	Occsly	Some of the time	Some of the time	Some of the time	Some of the time	Some of the time	Some of the time
N =	4	5	8	7	7	4	11	20	13

Note: N = total number of respondents (HR managers, managers and employees). N/A = not available. The information in Table 7.9 is from the HR, management and employee surveys. The responses provided by the participants were averaged (mean) for the six organisations in the study.

Comparing managerial and employee perceptions of consultation across the six workplaces, in most of the cases managers reported higher overall levels of consultation than employees. Informal discussions with employees were much more widespread than formal consultation with trade union representatives. It is also important to note that at HealthOrg and RailCo, which reported higher levels of employee participation and union involvement, both informal and formal consultation mechanisms were used. In contrast, at UniversityOrg, BusCo and EnergyCo, with all three reported lower levels of union involvement in environmental sustainability issues, the majority of managers indicated that formal consultation with unions had taken place only 'occasionally'. These survey findings are supported by the qualitative interview data.

The quantitative data were supported by the qualitative evidence that at BusCo there was less direct employee participation and informal information sharing, and more formal consultation with union representatives. The Network Manager at BusCo with thirty years of experience, explained management's position like this:

> *I suppose by today's standards we are very highly unionised and that is a good thing and a bad thing. The bad thing perhaps is a lot of employees feel that their communication with management it through the union and management has a tendency to communicate with the workforce via the union, and there are certainly occasions when the union acts as a filtering mechanism in a way that is not necessarily what you want.* (Network Manager, BusCo, 2013.08.06)

In explaining BusCo's preference for formal consultation with the union, in a '*very highly unionised*' organisation, management has to be context-sensitive. Respondents at EnergyCo, also reported lower levels of employee participation and union involvement in environmental sustainability. The majority of employees indicated that both informal consultation and employee briefings before change took place occurred only 'occasionally'.

7.2.2 Workers' Experiences of Participation in Environmental Sustainability

This thesis examines how much direct and indirect influence employees exerted over workplace-level environmental management decisions and, importantly, how much direct and indirect influence they felt they should have. The results are presented in Table 7.10 and Table 7.11.

Table 7.10: Employees' perceptions of direct and indirect influence over environmental sustainability averaged

		Employees		
		HealthOrg	RailCo	EnergyCo
Actual direct influence over environmental management		Some	Some	Some
Aspirations of direct influence over environmental management		Some	Some	Some
Actual indirect, through union representatives, influence over environmental management		None	Little	None
Aspirations of indirect influence over environmental management		Some	Some	Some
	N=	12	28	14

Note: N = total number of respondents (employees). The responses provided by the participants were averaged (mean) for the three organisations in the study.

Despite the many communication mechanisms available in the six cases studies, the perception of *direct influence* was relatively weak. The results indicate that majority of employees reported that they had 'some' direct influence over environmental sustainability. Second, employees' aspiration for direct influence was slighter greater than what they actually experienced in each of the cases. Notably, larger numbers of respondents employed at HealthOrg indicated that they would welcome more direct influence than employees in at RailCo and EnergyCo. This finding perhaps

is explained by the reportedly higher proportion of employees in the public sector, compared to the private sector, that have higher expectations about the appropriate degree of involvement.

As with *indirect influence*, both quantitative and qualitative data showed a sizable gap between employees' indirect influence and what they desired. The data provide clear evidence that in the three cases examined, indirect influence is either low or very low. The majority of respondents reported that they had 'little' or no indirect influence over environmental sustainability. This suggests that there is a trade union influence "gap", where trade unions are perceived as having low influence over environmental sustainability (See Table 7.11).

The results suggest that the trade union(s) is/ are not effectively communicating the opportunities and benefits for unions to work together with management to influence workplace environmental sustainability. Further, the trade union(s) is/ are not actively encouraging employee participation to improve environmental sustainability. It is important to note that at RailCo, which reported higher levels of union participation, a larger number of respondents indicated that they had 'some' indirect influence over environmental sustainability initiatives. This is supported by the qualitative interview data. At HealthOrg, which reported higher levels of union participation, larger number of respondents indicated that they had 'little' or no indirect influence over environmental sustainability. One possible explanation is that historic combative trade unionism at RailCo, compared to the 'broad-based' partnership approach at HealthOrg, shaped respondents' perceptions of potential union influence on management practices.

Nonetheless, in three cases examined the mean difference between *actual* indirect influence and *aspirations* clearly shows that the employment relationship is a power relationship and there is a significant employee voice deficit. After examining workers experiences of participation in environmental sustainability the following section examines the union contribution and collective bargaining.

7.2.3 The Role of Unions and Collective Bargaining

In each of the six case studies managers and employees were asked to assess trade union participation in environmental sustainability. Table 7.11 show a summary of the results.

Table 7.11: Managers' and employees' perceptions of union participation in environmental sustainability averaged

	Managers						Employees		
	CouncilOrg	HealthOrg	UniversityOrg	BusCo	RailCo	EnergyCo	HealthOrg	RailCo	EnergyCo
Unions avoid engaging with management on environmental issues	N/A	Disagree	Disagree	Disagree	Disagree	Agree	Disagree	Disagree	Agree
Unions help to find ways to improve environmental performance in this organisation	N/A	Agree	Disagree	Disagree	Disagree	Disagree	Disagree	Disagree	Disagree
Unions support / encourage pro-environmental behaviour amongst employees	N/A	Agree	Disagree	Agree	Disagree	Disagree	Disagree	Disagree	Disagree
Unions block environmental management initiatives	N/A	Disagree	Disagree	Disagree	Agree	Disagree	Disagree	Disagree	Disagree
N =	N/A	4	5	7	8	3	9	31	6

Note: N = total number of respondents (HR managers, managers and employees). N/A = not available. The information in Table 7.11 is from the HR, management and employee surveys. The responses provided by the participants were averaged (mean) for the six organisations in the study.

The results indicate that in most of the six cases the majority of respondents 'disagree' that unions help find ways to improve environmental performance and encourage pro-environmental behaviour amongst employees. At EnergyCo the majority of both managers and employees 'agree' that unions avoid engaging with management on environmental issues. At RailCo the majority of managers 'agree' that unions block environmental management initiatives. In contrast, at HealthOrg and BusCo the majority of managers 'agree' that unions encourage pro-environmental behaviour amongst employees. Analysing the responses in most of the cases the majority of respondents 'disagree' that trade unions avoid engaging with management on environmental issues and block environmental management initiatives.

These results suggest a number of possibilities some of which have already been identified: (a) the trade union(s) is/ are not effectively communicating the goal of environmental sustainability, (b) the trade union(s) is/ are not actively encouraging employee participation to improve environmental sustainability, (c) the trade union(s) is/ are functioning as a 'barrier' to environmental management initiatives, or (d) there are no opportunities for unions to participate effectively. However, the validity of the quantitative findings related to union participation in environmental sustainability needs to be considered. This researcher designed the research instrument to measure managers' and employees' perceptions of union participation in environmental sustainability. It is important, therefore, to consider whether or not the survey instrument accurately measured the concepts under investigation. The limitations of relying on an untested survey instrument must be acknowledged.

The interviewees indicated that engaging unions in environmental sustainability was beneficial to the success of environmental management activities. For example, the Operations Manager at the RailCo for over twenty years explained:

> *Definitely, I think they should be part of the process because the trade unions can sometimes be a link to the front line staff … It's an old fashioned attitude but sometimes members of staff are a bit nervous about talking to managers. They are a bit shy about talking to managers, but they would find it easier to talk to a trade union person. They would be more relaxed and feel free to be more open. So the trade unions can sometimes act as a go-between, between the front line staff and the managers so you can sometimes get good ideas from them.* (Operations Manager, RailCo, 2013.06.11)

This evidence points to the benefits that accrue from the presence of union representatives. They can *'act as a go-between'* and facilitate communication between employees and line managers. It also suggests that certain sections of employees might feel more comfortable sharing their environmental issues or concerns with union representatives instead of FLMs. Similar to RailCo's experience, the Employee Relations Manager explained the potential contribution of unions like this:

> *Absolutely they are critical to it because again unless you get their buy-in they are very influential in terms of the workforce … It is essential that they get on board with it and that is why we are certainly receptive to any ideas that they have in improving it … Quite often [trade unions] have much better ideas and are more central to [environmental management] through the trade union movement and the environmental movement.* (Employee Relations Manager, RailCo, 2013.06.11)

The Green Party Councillor at CouncilOrg explained the contribution unions this way:

> *Trade unions could have a very positive role. <u>Trade unions historically have been very interested in the life-long education of their members and the possibility of improving peoples' job prospects by adding to their skills</u> and knowledge base on new tasks that come forward through sustainability policies … There is a possibility for (joint working) if management and unions were willing to take the time and do this it might be something where people the grass-roots membership of the unions could see that they were having an influence and would feel less disengaged from management.* (Green Party Councillor, CouncilOrg, 2013.10.23)

This is significant, as these interviewees were of the considered opinion that unions could

potentially make a constructive contribution to raise employee awareness and to secure their members' support for sustainability initiatives. Furthermore, through dialogue and communication about 'decent' and high-quality work, unions have the potential to contribute to better skills utilisation in workplace. Developing and utilising new skill sets could support low-carbon innovation in the workplace.

7.2.4 Union Representation and Influence on Environmental Sustainability

The survey questionnaire and interviews explored employees' perceptions of union representation and influence on environmental sustainability within their workplace. The results of the survey are shown in Table 7.12.

Table 7.12: Employees' perceptions of union representation and influence over environmental sustainability averaged

	Employees		
	HealthOg	RailCo	EnergyCo
Unions here take notice of members' problems and complaints	Agree	Agree	Agree
Unions here are taken seriously by management	Agree	Agree	Disagree
Unions here make a difference to what it is like to work here	Disagree	Agree	Disagree
Unions here are good at communicating with members	Agree	Disagree	Disagree
Unions here have a lot of influence over working conditions	Disagree	Agree	Disagree
Unions here have a lot of influence over environmental management issues	Disagree	Disagree	Disagree
Unions here have a lot of influence over health and safety issues	Agree	Agree	Agree
N =	9	34	12

Note: N = total number of respondents (employees). The information in Table 7.12 is from the employee survey. The responses provided by the participants were averaged (mean) for the three organisations in the study.

The principal aim of the partnership approach is the delivery of mutually acceptable gains for the main stakeholder groups: employers, employees, and unions (when applicable). The employee participation processes through which partnership is established and conducted is through continuous joint problem-solving and open and timely exchange of accurate information covering a range of issues affecting employees' working. The results indicate that in all three cases examined the majority of respondents 'agree' that unions take notice of members' problems and complaints.

Notably, only at HealthOrg did the majority of employees 'agree' that unions are good at communicating with their membership. Further, at RailCo, which reported higher levels of union participation in environmental sustainability, the majority employees 'agree' that unions have a

lot of influence over working conditions and do make a difference to the workplace. In contrast, at HealthOrg and EnergyCo, which reported lower levels of union participation in environmental sustainability, the majority of employees 'disagree' that unions have a lot of influence or make a difference to the workplace. These results are supported by the qualitative data that identified lower levels of union influence over environmental management.

With regard to union influence over workplace environmental sustainability in all three cases examined the majority of respondents 'disagree' that union have a lot of influence over environmental management issues. However, unsurprisingly given their historic role, the majority of respondents 'agree' that unions have a lot of influence over health and safety issues. The results suggest that trade union(s) is / are not viewed by employees as having a lot influence over contemporary environmental sustainability issues. For environmental champions, this could present an opportunity to pursue an 'issues-based' form of workplace partnership on environmental sustainability such as the TUC's 'Green Workplaces' initiative. It is important to note that from a union perspective, the results raise a fundamental question about the effectiveness of environmental communication campaigns and techniques used to engage with members.

The qualitative findings suggest the need to explore the relationship between 'health and safety' and 'environment sustainability', and to understand how the two domains, which could be plausibly described as traditional and contemporary union activity, intersect and potentially support each other. The face-to-face interviews explored how managers and employees viewed the emerging contemporary issue of environmental sustainability. For example, the Station Team Manager at RailCo with forty years of experience appeared to consider traditional union issues more important. He said: *There are 1 million people in Britain now on zero hours (contracts). I think it is of much more importance to workers issues like this than say we can save the planet if we all switched lights off'* (Station Team Manager E, RailCo, 2013.08.04). This extract highlights how some participants viewed the union role in environmental sustainability with some degree of skepticism.

Another major issue explored was the potential for increased cooperation or 'issues-based' partnership between unions and management on environmental sustainability. As Danford et al. (2008: 154) argue, if workplace partnership represent an 'essential dimension of the required "institutional design" of the employment relationship' in high performance workplaces, then how employees evaluate union representation and influence in these workplaces becomes a core

labour-centred question. The evidence from the six cases indicates some potential for increased collaboration between managers and union representatives on workplace sustainability. Several managers highlighted the importance of working together to improve environmental communication with employees. At RailCo unions were seen to contribute to the delivery of environmental management training (e.g., eco-driving skills and environmental audit) and in helping to communicate with some difficult or *'set-in-their-ways'* operational and hospitality workers. At HealthOrg, union representatives played a key governance and oversight function in environmental decision-making with union representatives participating on senior-level sustainability committees and involvement on JCCs. It is also significant to note that at EnerygCo the Employee Engagement Manager rather optimistically suggested that at both a strategic and workplace-level unions had the potential to play a major role in transition towards a low-carbon economy (2014.04.27).

However, the reality was that some union representatives in the case study organisations tended to believe that conventional oppositional stances were sometimes more effective for placing constraints on managerial prerogatives and securing some protection from the demands of high performance work regimes. The oppositional stance was partly reflective of the union representative's perception that partnership working was not always used for enhancing employee participation, but instead aimed to legitimise the imposition of change. The union represerative at HealthOrg spoke of the union's involvement in the Sustainable Development Action Plan and tension associated with partnership working.

> *Unions have to constantly remind senior management that they are supposed to be working in partnership. Senior management can have a challenge when they want things to happen very quickly, and acknowledging that if they are following proper partnership process they have to go along with timescales for consultation. To allow proper input from members. And if you don't allow the proper consultation period then you are likely not going to get the feedback that is required to actually inform the end decision … Sustainability development action plan, I got it … yesterday and he wants a response by tomorrow. The thing is if you get a document like that, the reality is that unless you have nothing else on and this lands on your desk and you are expected to go through it and give comment back. So in a way there is lip service paid to partnership working. I get to see the document, but whether or not I actually get the opportunity to put input into it is just timescales. That is the reality.* (Wellbeing and Equalities Manager and Shop Steward, HealthOrg, 2013.10.07)

This extract from the interview with the union represenatative exposes some of the key challenges of partnership working, such as *'following proper partnership process'* to *'allow proper input from members'* (emphasis added) and a general lack of investment in the capacity (time and resources) of union reps to substantially engage in the process. It also indicates an increased burden of responsibility for union representatives.

A second challenge of partnership working was that increased cooperation on workplace environmental sustainability could potentially involve an inevitable distancing of union representatives from their "rank and file" members, both in terms of 'the incorporation of stewards in management-led discussions and a drift of priorities away from members' traditional concerns' such as wages and conditions. For example, commenting on the scenario of increased cooperation between unions and management, the Engineering Team Manager at EnergyCo offered this insight:

> *One of the issues… is that if the union started singing from exactly the same hymn sheets as the company the people who are a member of the union are thinking, "what is going on here? You are supposed to be on my side? You could end up with, if they were on the same page, this grey area where I suppose … you are in each other's pockets … For example, if you weren't happy that you were asked to share a van with somebody because of Sustainability you can't go to the union and say to them, "they are making me share a van". It is not a realistic example but it gives you an example of what you could imagine happening. And you would take that issue to the union who would say, "Yes, but that is good thing that you are sharing a van" and before you know it they have been no help to you and I imagine you would stop paying* [union dues] *if they are not able to help you. I am just thinking outside of the box.* (Engineering Team Manager, EnergyCo, 2014.04.27)

This is significant, as if union members did perceive that *'the union started singing from exactly the same hymn sheets',* it would undermine the legitimacy of the union rep as an agent of worker representation. At EnergyCo sustainability is a core corporate value, and because of this union activists could be reluctant to be visible champions for low-carbon initiatives given the *political risks* associated with 'working too closely' with management.

7.4   Summary and the Role of Trade Unions in Workplace Sustainability

This chapter has reported the architecture of employee voice in the six cases focusing on direct communication, upward problem solving, financial participation, and representative participation. It has examined the role played by unions in supporting workplace employment relations. The core argument presented here is that workplace employment relations contribute to the outcomes of environmental management. The findings provide an understanding of how environmental targets and responsibilities are communicated to employees, which EIP processes exist to engage employees in low-carbon initiatives, the challenges facing unions when management introduce a low-carbon strategy and the opportunities for mutual gains that accrue from union reps and managers working together to decarbonise the workplace.

All of the six cases reported 'some measures' were in place in their organisation to engage employees in environmental sustainability. The findings shed light on the importance of informal networks and direct communication. This observation was vividly highlighted at RailCo were

eco-driving technology had been installed on trains. The energy-savings were not realised due to the drivers *'tripping'* the system until a payment package was negotiated between management and the unions.

Team working and learning give employees the knowledge, skill and confidence to contribute to decision making in joint employee voice mechanism and are therefore an important part of any environmental management strategy. With regard to teamwork, all six cases reported a 'comprehensive scheme' in place in their organisation. For example, management-based teams were in place at CouncilOrg with a focus on carbon reduction and employee engagement. While at HealthOrg and UniversityOrg, employee-led 'sustainability groups' were set up to give workers the chance to devise and implement activities, and to learn from the results. The results suggest that a greater percentage of managers were satisfied with their level of involvement in environmental decision-making compared to employees. With regard to workplace learning, the majority of cases indicated 'some measures' were in place in their organisation to encouraging the acquisition of new knowledge, sharing of information and ideas related to environmental issues. The evidence suggests that when employees are "engaged" through involvement and learning processes they are more likely to have a better understanding of how they can contribute toward low-carbon workplace.

The research found evidence in the private sector cases of financial involvement to encourage pro-sustainable behaviour. At EnergyCo there were 'some measures' in place to incentivise pro-sustainability practices such as employee share ownership schemes. The evidence suggests that employee share ownership could potentially influence employee attitudes and behaviour for sustainable change. At RailCo, unresolved union-management negotiations on the introduction of eco-driving technology were an obstacle to financial participation linked to eco-driving performance. It is important to note that developing effective financial incentives can be a challenge due to the difficulty of accurately and fairly evaluating low-carbon behaviours and performance. In the public sector cases there was no evidence of individualised financial incentives.

In only three out of the six cases, did unions participate in environmental sustainability activities. HR managers in the transport and energy cases reported a 'comprehensive scheme' in place. For example, at RailCo the management and unions were working towards increased cooperation on environmental issues, with ASLEF taking a pro-active role. The insights gleaned from the qualitative interviewing provide personal accounts into the experience of low-carbon initiatives

and employment relations from employee, manager and union perspectives. The qualitative data provided vivid examples of participants' belief that union representatives could make a constructive contribution to environmental management.

The findings indicate that in all of the six cases both managers and employees considered there was potential for enhanced management-union collaboration on workplace low-carbon initiatives. However, this was not the case in three cases examined, where the majority of respondents 'disagree' with the questionnaire statement that the union had 'a lot of influence' over environmental management issues. This thesis found weaker support among some respondents for increased union participation in sustainability initiatives. This may be explained by the lack of pro-active union involvement in sustainability initiatives, that the environment is not typically viewed within the scope of a traditional union bargaining agenda, and general skepticism about potentially intrusive union participation in some cases.

This chapter examined a variety of employee participation practices rs in the six case studies. It analysed different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which potentially enable or constrain workplace environmental sustainability. The chapter also evaluated the potential for a partnership approach towards environmental sustainability in the workplace. The findings provided an understanding of how environmental targets and responsibilities are communicated and which involvement and participation processes are most favoured by managers to engage employees in pro-environmental issues and decision-making. The findings provided evidence of how unions can make a contribution to environmental sustainability and demonstrates that partnership working and mutual gains can be a feature of a sustainable workplace. The findings from this chapter set the scene for the following chapter that discusses leadership and management, HR practices and employment relations in each of the six cases studies.

Chapter 8

Discussion

This chapter examines each of the case studies separately in order to address the specific objectives of this thesis and highlights the key lessons to be learned from the six cases. It summaries the key findings and learning points that emerged from an analysis of the role of leadership, a selective bundle of HR practices and employment relations across the six case study organisations. In doing so, these findings encourage new perspectives and interpretations of environmental management. The holistic focus on each case study set the scene for the concluding chapter that discusses the implications for workplace behaviour including, good employee relations practices that promote active engagement involving management, unions and employees as well as practical measures to create environmental sustainable workplaces. The key learning from the six cases are shown in Table 8.1. These findings are discussed below and compared to the existing literature.

Table 8.1: Summary of Key Learning from the Research

Organisation	Key Learning
CouncilOrg	At an organisational level, it illustrated how financial pressures in the public sector can promote planned change. That work redesign can deliver cost savings alongside workplace environmental improvements. While the ambitious political commitments of the council and Scottish Government influenced managers, so did adherence to an ideology of managerialism. When financial constraints are added to the developments in managerialism, it necessitates that public sector middle managers redesign work in a way that reduces carbon emissions thereby providing cost savings as well as improving the environmental. Although most union shop stewards and the small sample of union members participating were aware of environmental issues and showed interest in progressing a sustainable workplace agenda, the political orientation, behaviour and action of most shop stewards and union members was understandably more focused on resisting redundancies and defending basic employment conditions. A key learning arising from this case is that a culture of managerialism, for instance quantifiable 'targets' and perceived low quality of line management can shape negative attitudes to workplace sustainability.
HealthOrg	At an organisational level, union representatives played a key governance and oversight function in environmental decision-making with union representatives participating on senior-level sustainability committees and involvement on JCCs. This case demonstrated the potential for unions to support employee environmental participation. The appointment of environmental 'champions' and 'green teams' were effective for engaging employees and encouraging creative ideas. The evidence suggests that senior manager commitment and teamwork was a critical success factor for changing employees' behaviour and improving environmental outcomes. The case demonstrated the potential for unions to support employee environmental participation through, for example, dual-voice communication and feedback mechanisms. The key positive lesson to be learned therefore is the crucial importance of leadership and support of senior management, plus a culture of union-management partnership working, was significant factors that contributed to workplace sustainability.
UniversityOrg	At an organisational level, providing there is commitment from senior management, it highlighted how integrating sustainability objectives within long-term corporate planning can transmit clear signals to facilitate and support workplace pro-environmental behaviour. The case also highlighted that face-to-face conversations were the most effective method of engaging employees and students. For example, a sustainability award scheme provided a framework for evaluating low-carbon initiatives while functioning to recognise publicly the efforts of employees and students. The university's routinised use of carbon reduction targets, the creation of specialised sustainability manager positions, and a shift towards devolved energy budgets also illustrated the trend towards managerialism in higher education. The union environmental representative suggested that some members were oriented towards environmental issues. However, the unions were reportedly under resourced and lacked the organisational capacity to make a more significant contribution. The case highlighted the important leadership role played by senior administrators, the effective use of face-to-face communication and the mutual benefits of green HR practices such as non-monetary rewards and recognition schemes, which, combined, were significant factors contributing to workplace sustainability.
BusCo	At an organisational level, it demonstrated what can be achieved through top-down leadership and high investment in new low-carbon technology. Management's sustainability strategy primarily focused on satisfying performance criteria set by funding partners, such as the Scottish Government, which resulted in investment in new technology that minimised vehicle emissions. At the level of the workplace, employee behaviour played a crucial role in reducing carbon levels. For example, bus drivers changed their driving habits. In recognition of the importance of changing employee behaviour, all drivers received annual training, which sometimes included eco-driving. The management team's preferred style was to engaged in frequent formal consultation with union representatives. However, the findings suggested that the unions did not have the capability or the orientation towards environmental sustainability to take full advantage of these formal engagement sessions. The lack of employee and union participation in environmental decision-making was however not seen as a major barrier to the implementation process of sustainability initiatives. The key positive lesson to be learned is that training was a necessary HR intervention at BusCo, but low-carbon initiatives were primarily implemented through top-down leadership and investment in new lower-carbon emitting transport technology.
RailCo	At an organisational level, it underscored the relevance and value of trade union involvement in sustainability initiatives. The case demonstrated the importance of communication in the change process. Feedback on the progress towards environmental targets helped to increase employee awareness and engagement with corporate-level targets for carbon reduction. It also illustrated the role played by change 'champions' in raising the profile of environmental issues in the workplace and helping with the implementation of low-carbon initiatives. The evidence points to mutual gains with employees directing benefiting from investment in training and technology (e.g., acquiring additional skills, such as eco-driving and opportunities for cross-functional team working, for example, green teams). The findings demonstrated both mutual gains for employers and employees and potential barriers to change from union representatives. The key positive lesson to be learned from this case is that investing in dialogue and communication about the process and the benefits that accrue from sustainable practices can result in mutual benefits for employers and employees. Moreover, social technology in the form of active engagement and constructive collaboration between management and unions can contribute to decarbonising work practices and processes.
EnergyCo	At an organisational level, it demonstrated how embedding sustainability principles within corporate values coupled with a commitment from senior management can positively affect carbon emissions. At the level of the workplace, in a performance management culture it highlighted how pro-environmental behaviours can be incentivised by setting targets linked to individual monetary reward. However, the case exposed unintended consequences arising from the new system of performance related pay when applied to the multifaceted concept of workplace sustainability. It suggested that when sustainability is a core corporate value increased cooperation between management and unions could undermine the legitimacy of the union representative as an agent of worker representation. Thus, the case exposed the potential political risks associated partnership working. An important lesson to be learned from this case is that without adequate investment in training, change agents will face multiple challenges when trying to engage employees in corporate-led, top-down innovation schemes.

8.1   CouncilOrg

The CouncilOrg case study provided the opportunity to investigate the sustainability activities of a large Scottish city council. At an organisational level, the case explored the role of public-private partnership in contributing to the delivery of sustainability objectives. It also provided an insight into the defusion and influence of managerialism in the public sector. At a workplace level, the case examined the implementation of the Carbon Management Programme (CMP), the council's primary in-house carbon reduction initiative, led by a dedicated management team.

The first research objective was to identify the main drivers, stakeholder, benefits and barriers to workplace environmental sustainability. Reducing organisational risk and operating costs and achieving efficiency savings were considered 'very important' internal drivers. Not surprisingly perhaps, regulatory compliance was reported as a 'very important' external driver of sustainable practices. Reputation and organisational risks stemming from concern for public image and recent high-profile political commitments were seen to leverage the Council's sustainability agenda forward at a senior level. Several studied indicate that organisations that recognise that their operations face significant environmental issues are more likely to implement environmental management practices (e.g., Ervin, 2013). More specifically, Halkos and Evangelinos (2002) argue that firms whose managers perceived that environmental issues could affect their organisation's public image were significantly more likely to implement an environmental management system (EMS).

While the ambitious political commitments of the council and Scottish Government influenced managers at CouncilOrg, so did adherence to an ideology of managerialism usually associated with private sector organisations (Ferlie and Ongaro, 2015; Pollitt, 1998). In line with the neoliberal managerialst proclivity for individualising the employment contract and quantifying management goals, CouncilOrg had introduced regular target setting and the devolvement of budgets to middle managers. Managerialism as a set of distinction practices is, it is argued, the chief mechanism for helping productivity to become contagious throughout public sector organisations (Fleming, 2015: 78). The evidence of corporate managerialism in public administration should be seen in the context of UK Government's austerity cuts and the Scottish Government's freeze of council tax, which has put pressure on council budgets. **Thus**, financial pressures and the CouncilOrg's politico-managerial culture, acted to promote cost-saving sustainable initiatives and other forms of planned change by senior management. When financial constraints are factored into the development of managerialism, it compelled middle managers to

reflect on how work could be redesigned and how carbon emissions could be reduced in order to deliver cost savings alongside workplace environmental improvements. The case findings revealed an absence of top management support for sustainability. The data also showed employee apathy towards environmental issues. In addition, time constraints and resource issues acted as significant barriers to the successful introduction of sustainable behaviours. Top leaders play a key role both in terms of setting the overall policy direction of the organisation and, crucially, providing additional time and resources to encourage employees to engage in dialogue and low-carbon behaviours. At an employee level, while employees were encouraged to incorporate sustainability aspects into their own personal development plan, environmental performance was generally not measured or evaluated within CouncilOrg. The Carbon Management Team at CouncilOrg was perceived to play an important role in encouraging and supporting the environmental training and development requests of individual employees.

The second objective was to explore workplace leadership, culture and the role of HR practices as part of a low-carbon strategy. There was evidence of cross-functional work teams and council-wide environmental communications campaigns supported by the Carbon Management Team and Green Wardens. The respondents and participants at CouncilOrg considered informal manager and employee relationships to be 'good'. However, recent redundancies and budgetary pressures had resulted in increased workloads and this impacted negatively on informal workplace relations. This perceived deterioration in employee relations and work intensification may account for the fact that senior managers at CouncilOrg insisted that the survey results covering management-union relations be omitted from the write-up of this case study.

The third and fourth objectives were to analyse dimensions of employee voice and evaluate the potential to achieve mutual gains for employees and employers. With regard to union participation, the Carbon Management Team had a seemingly cautious approach towards trade unions engagement. They did not, for example, pro-actively engage with union stewards and union involvement in environmental decision-making was generally limited to more established health and safety complaints (e.g., workplace temperature). Although at an individual level some union stewards expressed interest in environmental issues and were motivated to advocate and progress a sustainable workplace agenda, the political orientation, behaviour and action of most union stewards and their members was understandably more focused on resisting job redundancies and safeguarding working conditions. In the absence of an environmentally sustainable strategy and a limited union capacity to campaign and bargain outside a traditional

negotiating agenda, the stewards' narratives demonstrated limited understanding of low-carbon initiatives. To remedy this Union Environmental Representatives should be given access to environmental sustainability training and, importantly, additional facility time to perform their role effectively (Scottish Government, 2014). In summary, a culture of managerialism, including quantifiable 'targets' and devolved budgets, rather than green HR practices, featured more prominently in shaping workplace environmental sustainability.

8.2 HealthOrg

The HealthOrg case examined a conference and training venue within the National Services Scotland (NSS). Its remit is to provide advice and support services to the rest of NHS Scotland. This supporting role means that the organisation works closely with NHS Health Boards in the delivery of both healthcare and business support services, which includes guidance on energy conservation, waste and recycling, and sustainable travel. At an organisational level, the case highlighted the role of union-management partnership for sustainability. At a workplace level, the case examined how sustainability initiatives in the conference and training venue have centred on events planning, which provides an interesting context for the adoption of low-carbon behaviours because customers rather than employees consume a significant proportion of the building's carbon use.

Organisational risk and new product / service opportunities were 'very important' internal drivers, and regulatory compliance was reported as a 'very important' external driver of sustainable practices. Reputational risk associated with poor environmental performance stemmed from their overall responsibility to demonstrate leadership and provide support to other health boards in Scotland. The evidence suggested that there are considerable opportunities for environmental change agents being made aware of the external influences of regulation, customers, competitors and society more broadly.

The interviewees identified barriers to change and reported that the absence of trusted internal data on energy consumption acted as a significant obstacle to creating a sustainability-oriented culture. Further, the lack of data on environmental management performance were seen as a barrier to winning top management support and successfully engaging employees with environmental awareness campaigns. At the level of the organisation, the research revealed that the absence of a dedicated environmental budget was also a significant barrier to change. Similarly, at a workplace level, a small overall operating budget and the absence of a dedicated

environmental budget constrained their ability to make investments in sustainability at HealthOrg. Relatively few studies have evaluated the barriers to environmental sustainability in the public sector (e.g., Cox et al, 2012; Walker et al., 2008) and specifically in the healthcare and higher education sector in the UK (e.g., Plank, 2011; Tudor, Noonan, and Jenkin, 2005). However, when barriers are examined, studies find the costs of environmental management to be one of the most significant barriers to implementing environmental initiatives, especially for SMEs and facilities operating in service sectors (e.g., Jones, 2010; Masurel, 2007)

There was evidence of cross-function teams and environmental champions at both organisational and workplace-level. Overall, the respondents and participants at HealthOrg perceived there to be 'good' informal relations between managers and employees. At the level of the organisation, following the Scottish Government's guidelines on partnership working in the NHS, shop stewards participated on the sustainability committee and had facilitated employee feedback on key strategic sustainability policy documents, for example. The appointment of environmental 'champions' and 'green teams' were effective for engaging employees and encouraging creative ideas. The data highlights the effectiveness with which successful 'environmental champions' can promote the integration of sustainability concerns into the activities and decision-making of small business units within large organisations (Anderson and Bateman, 2000; Cox et al., 20012; Kennedy et al., 2015). Not all organisations require large numbers of people to improve environmental outcomes. Notably in smaller organisations or smaller workplaces, a senior manager or environmental champion could be a major force for change. The evidence suggests that senior manager commitment and teamwork was a critical success factor for changing employees' behaviour and improving environmental management in the workplace. Notably, a larger number of respondents at HealthOrg indicated that they would welcome more direct influence over environmental management. This finding perhaps is explained by the reportedly higher proportion of employees in the public sector, compared to the private sector, that have higher expectations about the appropriate degree of involvement.

At a workplace-level there was little reported evidence of formal or informal union involvement in environmental issues. However, at the organisational level, union representatives played a key governance and oversight function in environmental decision-making with union representatives participating on senior-level sustainability committees and involvement on JCCs. The case therefore demonstrated the potential for unions to support employee environmental participation through, for example, dual-voice communication and feedback mechanisms. At

HealthOrg, however, a larger number of respondents indicated that unions had 'little' or no indirect influence over environmental sustainability. One possible explanation is that, compared to a combative trade unionism approach, the 'broad-based' partnership approach at HealthOrg shaped respondents' perceptions of union influence on management practices. As other research suggests (Pearce, 2012), union environmental representatives were effective for engaging employees and encouraging creative ideas. The key lesson to emerge is that organisational leadership and senior management support plus a culture of union-management partnership working, rather than green HR practices, were significant factors that contributed to creating a sustainable workplace.

8.3   UniversityOrg

UniversityOrg is an internationally recognised research-intensive institution among the UK's universities. This case study provided an example of how integrating sustainability objectives within long-term corporate planning and commitment from senior management can transmit clear signals to stakeholders about the movement to a low-carbon workplace. The case examines how a newly created Department of Sustainability, originally formed from a grass-roots group of students and employees, has helped create a comprehensive corporate sustainability strategy. At an organisational level, the case explored a sophisticated 'cultural script' (Fleming, 2015: 85) built around the university's 'Sustainability Awards' scheme that provides a social 'toolkit' to encourage departments, laboratories and student groups to tackle a number of carbon reduction and sustainability-related issues. At a workplace level, the case examined the department's engagement programme that works in consultation with stakeholders to help identify possible areas for infrastructure improvement and to promote energy awareness and behaviour change. The university's routinised use of carbon reduction targets, the creation of a number of specialised sustainability manager positions, and a shift towards devolved energy budgets also illustrates aspects of managerialism in higher education institutions.

The most important drivers of change were the pro-environmental values of students and employees and energy efficiency. Ethics, the promotion of social responsibility and brand reputation were 'very important' internal drivers. The importance of sustainability in higher education is driven by the responsibility to contribute to 'global challenges'. Interviewees' narratives emphasised that as a large research institution and key stakeholder in the Scottish economy, the institution not only had to reduce its considerably large carbon footprint, but also had an ethical and social responsibility to contribute both at a local and international level to

tackling key climate challenges. The evidence suggested that investment in sustainability was explicitly embedded in corporate strategy and supported by academic research, teaching, and employee and student led community initiatives. These findings are consistent with other research on employee low-carbon behaviour. Research suggests that organisations that engage employees with the meaning and purpose of their low-carbon initiatives appear to be more successful in developing an overall low carbon culture (Cox et al, 2012: 44).

The devolved nature of the university adds a further layer of complexity when trying to engage employees in sustainability. For example, UniveristyOrg has refused formal requests from the Department of Sustainability to add environmental sustainability considerations to HR policy. At a workplace level, the research identified internal barriers created by the nature of the employment relationship in terms of individualism and collectivism when working with academic and non-academic employees. Compared to non-academic staff, some academics were viewed as more difficult to influence and actively resisted changes to their working practices. Further, interviewees explained one of the unintended consequences of the 'publish or perish' template followed by most UK universities. Coupled with the individualistic nature of their employment relationship, the emphasis on publishing 'targets' was perceived as a potential barrier to changing the working practices of academic staff.

Face-to-face conversations were the most effective method of engaging employees and students. The respondents and participants at UniversityOrg perceived informal manager and employee relationships as 'good'. The research identified that cross-functional teams – 'sustainability groups' informally organised at a department or school-level – and the Department's Sustainability Awards were both effective and complementary methods for developing a pro-environmental involvement culture on campus. A dominant method for creating a pro-environmental organisational culture is to engage employees and encourage creative ideas through line managers' supportive behaviours and rituals such as employee recognition awards schemes. Interviewees' narratives spoke of employee and student engagement as critical mechanism for shared meanings about changing toward pro-environmental attitudes, norms and behaviour. The process functioned to raise the awareness and the profile of sustainability initiatives sufficiently high so that both staff and students adopt low-carbon behaviours. The awards ritual provided an opportunity for staff and students to work together and earn recognition for their social responsibility and sustainability-related activities. Other studies report that most organisations are stimulating environmental activities with non-monetary rewards such

as employee recognition schemes and gift certificates (Govindarajulu and Daily 2004; Denton, 1999).

As far as union participation was concerned interviewees reported moderate levels of union participation in environmental decision-making. The respondents and participants considered union-management relations to be at best 'neutral'. Commenting on the potential union contribution to environmental sustainability, participants suggested that unions could potentially play an important role in communicating with members to support low-carbon initiatives. At the level of the organisation, at UniversityOrg a JCC responsible for environmental issues existed although union shop stewards were not involved. The union environmental representative suggested that some members were oriented towards environmental issues. However, the unions at UniversityOrg were reportedly under resourced and lacked the organisational capacity to make a more significant contribution. Interviewees recounted that campaigning against zero-hour contracts was seen as a higher priority than environmental sustainability. The case highlighted that top leadership, the use of face-to-face communication and green HR practices such as non-monetary rewards and recognition schemes, rather than employment relations and union participation, were significant factors that contributed to improving environmental management.

8.4   BusCo

BusCo is one of the largest municipally owned bus companies in the UK. The company operates bus services, trams, park and ride, sightseeing bus tours and travel shops, and maintains a driving school and engineering depot. This case provided an example of how low-carbon initiatives were implemented through strong top-down leadership and investment in new lower-carbon transport technology. At the level of the organisation, BusCo acknowledges that their business activities have a direct impact on public health and the environment and reported that they are committed to improving environmental performance. BusCo's sustainability strategy primarily focuses on working with funding partners such as the Scottish Government to invest in new technology to minimise vehicle emissions. At the level of the workplace, bus drivers play a central role in reducing overall carbon emissions. In recognition of their importance, all drivers received annual training as part of their certificate of professional competence, which sometimes included eco-driving.

The most important drivers of change were high levels of investment in new transport technology and senior management commitment. The environmental manager reported that

offering new products and services was a 'very important' internal driver, and reducing the impact on the local environment, providing assurances to stakeholder and regulators, and customer demand were reported as 'very important' external driver of sustainability strategy. There was a perception held by interviewees that 'public ownership' standing was as a source of competitive advantage. The Head of Human Resources reported that municipal ownership enabled higher levels of investment in new technology compared to industry standards, which in turn also influenced their overall green marketing strategy. These findings are consistent with other studies that examine the commercial benefits of implementing sustainability initiatives (Zutshi and Sohal, 2004). In the transport industry, environmental leadership can be broadly viewed as contributing to overall competitive advantage (Richardson, 2005)

Costs were a significant barrier to sustainability strategy. Interviewees reported that the cost of operating hybrid buses was becoming less attractive over time because of the additional cost of purchasing and maintaining hybrid buses, coupled with the uncertainty about bridge funding from the Scottish Government to support the investment in electric low-carbon vehicles. The research found that training was an important HR intervention for developing the low-carbon practices of drivers. At a workplace level, all drivers received annual training as part of their certificate of professional competence, which sometimes included eco-driving techniques. At an employee level, drivers were also formally appraised on their eco-driving techniques. This supports the findings of other sustainable transport studies that demonstrate that government support and financial assistance is critical to lowering the barriers to investment in low-carbon infrastructure and technology (Buehler and Pucher, 2011; Docherty et al., 2004; Hull 2007). Other environmental management studies such as Masurel (2007) suggest that cost-savings are the most important influence on investment decision. Similarly, Regnier and Tovey (2007) argue that organisations often use discount rates that favour the short term, while the horizon for environmental costs is longer and this leads to obvious underinvestment in environmental performance by organisation.

The fourth research objective was to evaluate the potential to achieve mutual gains for employees and employers. While drivers played a crucial role in reducing carbon emission through eco-driving practices, the lack of employee and union participation was generally not seen as a major barrier to the implementation process of sustainability initiatives. At BusCo participants indicated that management-employee relations were 'good' and this was attributed to high pay and good working conditions, but unions were not active in environmental

management. Interviewees reported low levels of direct employee participation and informal information sharing. At BusCo, for example, the management team more frequently adopted formal consultation with union representatives as the preferred management style. However, the findings suggest that the unions did not have the capability or the orientation towards environmental sustainability. To improve employee engagement the management team first intended to focus on developing the skills of line managers before engaging directly with employees or union reps. The priority of senior management might be explained by other research suggesting that line managers play a central role in supporting employee engagement initiatives (Purcell and Kinnie, 2008). The key lesson to emerge is that while training was a key HR intervention at BusCo, across the organisation low-carbon initiatives were primarily implemented through strong top-down leadership and investment in new lower-carbon emitting transport technology, rather than attention to green HR practices and employment relations. This case is an example of where a joint learning initiative might have worked to develop the leadership skills of line-managers and involve trade unions.

8.5   RailCo

The fifth case of RailCo focused on an organisation in Scotland owned by a large company that operates bus, coach, rail, and tram services in Europe and North America. This case provided an example of how organisations, in which decisions are typically taken at senior levels of corporate hierarchy, can find opportunities for employee involvement to enable workers and their representatives to contribute to the change process. At an organisational level, the case demonstrated the importance and value of union participation when organisations introduce environmental work tasks. At a workplace level, the case examined the introduction of eco-driving techniques and new technology that helps drivers operate their trains in a more energy-efficient manner. Furthermore, it demonstrated how environmental reporting encouraged changes in employee behaviour that support improved environmental management. The case also provides learning for large organisations with highly mobile and geographically dispersed workforces that are attempting to engage employees in environmental sustainability.

Internally, the responsibility for implementing and managing sustainability initiatives lies with both the environmental management function and individual environmental champions across different workplaces. These findings are consistent with other research that indicates that facilities managers and environmental managers play a key role because of their expertise, whereas the role of HR employees in most sustainability initiatives appears to be absent in larger

firms (Cox et al., 2012: 45). The authors argue that given the focus of many sustainability practices on changing aspects of work routines, HR employees may be useful sources of influence and advice.

With regards to drivers of change the potential competitive advantage and profitability benefits arising from sustainability initiatives was seen as a significant factor. Profit criterion and health and safety were 'very important' internal drivers. Regulatory compliance and maintaining a "license to operate" were reported as 'very important' external drivers for change. Interviewees suggested that the terms of winning the Network Rail franchise bid, increasing the profit margin by reducing operating costs were a clear driver for investing in sustainability activities. Arguing that RailCo should become '*a beacon of environmental sustainability, building on best practice to everything it does*', the independent 'McNulty Report', a government commissioned study on the efficiency of UK rail, similarly identifies several barriers to 'the optimal use of resources' in relation to the asset management of stations and depots (Department of Transport, 2011: 6).

At an organisational level, the lack of line manager support was as a significant barrier. Arguably, one of the most complex but least appreciated factors in facilitating sustainability initiatives is the quality of the line manager-employee relationship. Line managers play a key role in enacting HR policies and delivering better environmental outcomes. For example, line managers encourage employees to learn new low-carbon skills and behaviours by 'signaling' whether they consider training to be important and by helping to remove any obstacles to their application. These findings are consistent with the research of Post and Altma (1994: 67) and Walker et al. (2008) that highlights *industry barriers* such as increased capital cost and *organisational barriers* including lack of time and resources can function as 'formidable barriers' to obstruct efforts to improve environmental performance (emphasis added). At RailCo, line managers' active and visible support and participation in any low-carbon initiative, including mentoring of employees towards pro-environmental behaviours, were perceived by respondents and participants to be a critical success factor. At a workplace level, the participants explained that stations were evaluated on a monthly basis using a 'traffic-light' reporting system, which is based on performance indicators of each environmental management area (e.g., energy, water, recycling). At an employee level, individual employees are also formally appraised on how their day-to-day work contributes to the company's environmental targets.

Environmental champions and regular environmental management reporting were effective methods for engaging workers. The respondents and participants at RailCo perceived that informal manager and employee relations were 'good'. Employee champions play an important role in raising the profile of environmental issues in the workplace and helping with the implementation of low-carbon initiatives. Although participants' perceived that management-union relations were antagonistic, the unions nonetheless played an active role in environmental management. Indeed, in terms of union participation, RailCo provided evidence of how unions were taking a pro-active role in environmental sustainability change. At RailCo, respondents reported higher levels of union participation in environmental sustainability and the majority of employees indicated that unions have a lot of influence over working conditions and do make a difference to the workplace. To illustrate the point, the train drivers union ASLEF had recently approached senior management about supporting a 3-day training programme to provide existing Health and Safety Representatives with environmental management training. Further, interviewees disclosed that there were plans to integrate environmental management into existing committee structures. It is significant to note that at RailCo, which reported higher levels of union participation, a larger number of respondents indicated that they had 'some' indirect influence over environmental management. Interviewees suggested that engaging unions in environmental issues was beneficial to the success of environmental management activities and created opportunities for joint learning initiatives. This suggests that, consistent with recent research on workplace innovation, all employees could benefit from increased support for personal and professional career development through informal and formal workplace learning opportunities (Scottish Government, 2015)

The findings demonstrated both mutual gains for employers and employees and potential barriers from the presence of union representatives. The majority of managers and employees perceived that management-union relations were 'good', and hence, as Lund (2004) found, union reps can facilitate communication between employees and line or general managers. The case demonstrated that unions played an active role in influencing sustainability strategy and negotiating mutual financial gains benefits for both parties. The main finding is that to exclude union representation in the sustainability strategy would substantially limit any initiative to decarbonise the company's business operations. To identify the opportunities for mutual benefits through the employee participation in low-carbon activities, this case provided some evidence that sustainability activity improved the quality of work for employees and delivered better environmental outcomes. The evidence suggests that employees gained from RailCo's

investment in training and technology (e.g., acquiring additional skills, such as eco-driving) and the use of environmental champions and opportunities for cross-functional team working (e.g., green team). The central finding to emerge is that cooperative employment relations and union participation, rather than leadership and green HR practices, were significant factors that supported sustainability and the introduction of environmental work tasks at the employee level.

8.6   EnergyCo

EnergyCo is the UK's largest generator of renewable energy and considered as one of the "Big Six" energy suppliers. This case highlighted the importance of senior management's role and demonstrates that organisational culture, specifically the articulation of pro-environmental values coupled with commitment from senior management can indirectly affect carbon emissions performance through a causal chain of mediating variables such as employees' attitudes and employees' behaviour. At the level of the organisation, the case provided a clear example of how incentivised change, through the use of emission targets linked to individual financial incentives, can mediate low-carbon behaviours. At the level of the workplace, the case demonstrated that middle and line managers are change intermediaries, with new knowledge, high-quality relations with their subordinates and a relevant set of HR practices they can have a significant influence on environmental performance. Further, it demonstrated the critical role of workers participation on safety, health and environmental committees and the importance of employees communicating their concerns to their supervisor or employer. Managers need to engage in formal and informal communication with subordinates and peers, ask questions, share experiences and engage in interpretations in order to embed sustainable practices. At EnergyCo environmental information was cascaded downward by managers and communicated to employees at mandatory weekly team briefing meetings. This highlighted that the corporate-led sustainability programmes supported opportunities to engage diverse groups of employees and encourage cross-functional team working. It indicated that encouraging team working potentially improves social relations and fosters a culture of innovation. This supports the findings of Hanna et al (2000) and Rosso and Fouts (1997) that examine the improved human resource outcomes of corporate sustainability initiatives.

The most important factors driving organisational change were corporate social responsibility and government legislation that accelerated investment in sustainability initiatives. Without such investment there would be higher costs resulting from increased taxes and a potential fall in revenue due to reputational risk. Other significant external drivers mentioned were reducing the

overall impact on the local environment and providing assurance to the general public and regulators.

The second research objective was to explore the role of HR practices as part of a low-carbon strategy. The lack of sustainability training and the difficulty of evaluating sustainability at an employee-level was a significant barrier. The participants also identified unintended consequences arising from the introduction of a new system of performance related pay (PRP). EnergyCo's PRP, it was suggested, would lead to increased workload for both line-managers and employees and thus have a negative impact on employee relations. Moreover, the pay system compromised managers' work and created a gulf between managers and those managed. The PRP system exposed the complexity of applying the multifaceted concept of sustainability to different business functions. The evaluative process was time consuming, which took managers away from their other day-to-day operational tasks. For example, line managers evaluated employee performance against each of the company's core values, and therefore it created additional challenges of measuring and rewarding employee environmental performance. The case highlighted the added pressure on line mangers when pay is linked to performance including, the potential to create tensions between managers and subordinates and within work teams. Consistent with other research this demonstrated that performance appraisal systems can have a negative influence on employee relations as well as increased workloads for line managers (Scholarios and Taylor, 2014). The salient point to emerge from this case is that without adequate investment in training, change agents face multiple challenges of encouraging employees to participate in corporate-led, top-down innovation schemes.

EnergyCo reported lower levels of employee involvement and union participation in environmental sustainability. However, there was evidence of robust sustainable transport policy and social technologies including, corporate employee awareness campaigns, the use of non-monetary incentives such as electric vehicle charging points and some financial participation. When comparing managers' and employees' perceptions of the manager-employee relations, both survey respondents and participants exposed differences. Employees were generally less positive. At EnergyCo 35 per cent of employees indicated that managers-employee relations were 'poor', while 100 per cent of mangers reported that relations were 'good'. Only in the case of EnergyCo were senior managers and the majority of the workforce formally evaluated on their sustainability efforts through a performance-based pay system. This is a significant

observation as it demonstrates a strategic approach to reward management, that is the attempt to align rewards with corporate strategic goals.

With regard to managing EnergyCo's organisational culture, competition and recognition schemes had been used to motivate employees in a corporate-led energy reduction campaign. Non-monetary rewards and recognition schemes appeared to be effective for motivating employee low-carbon behaviours. Interviewees, for example, reported that that it was mandatory for employees to take one rail journal for every four flights taken and the company introduced two no-fly months annually when all but essential flights are prohibited. Mandatory policies that seek to discourage and prohibit high-carbon behaviour do seem to have strong impact, however, these policies are rarely mentioned in the literature.

Interviewees reported low levels of union involvement in environmental decision-making. The respondents and participants considered union-management relations 'neutral'. At EnergyCo 28 per cent of employees indicated that relations between managers and unions were 'poor' or 'very poor'. Commenting on union-management relations and the potential union contribution to sustainability, participants suggested that although unions could be instrumental in mobilising member support for low-carbon initiatives, participants reported that unions were 'poor' at communicating with members and had only limited influence on management practice. The evidence here also suggests that 'poor' union-management relations limited the opportunity for unions to jointly work with managers on embedding workplace sustainability. Further, there was a suggestion that increased cooperation on workplace sustainability might not be forthcoming because it created a gulf between union reps and "rank and file" members. Interviewees suggested that because sustainability is a core corporate value increased cooperation between unions and management would undermine the legitimacy of the union representative as an agent of worker representation. Consistent with other research this case demonstrated the potential political risks associated partnership working (Lucio and Stewart, 2005). The central finding of this case is that green HR practices and senior management support, rather than employment relations and union participation, were significant factors that contributed to environmental management.

This chapter has focused on the key findings from examining across each of the six the cases. It examined the role of leadership and management, HR practices and employment relations across the case study organisations. The findings set the scene for the concluding chapter that discusses

the contribution to knowledge, research limitations and recommendations for future research and practice.

Chapter 9

Conclusions & Recommendations

The purpose of this chapter is to synthesise the key results and to analyse and interpret how the findings confirm, enhance and add to existing research and knowledge. The aim of this thesis is to investigate how employee relations enables and improves environmental management. The research investigates six Scottish public and private sector cases in local government, healthcare, higher education, transport and energy. It examines whether stakeholders at workplace level including, managers, employees and union representatives have the interest and capacity to contribute to environmental management.

The principal question guiding this thesis is: *'How do employee relations influence environmental management in the workplace?'* The goal of this thesis is to examine the role of employee relations in enabling and improving environmental management in the workplace. It studies how HR practices contribute to environmental goals and how direct and indirect, informal and formal forms of employee voice impact on environmental sustainability practices in the workplace. As part of understanding the context of management practices, it identifies the key drivers, stakeholders, benefits and barriers to workplace environmental sustainability. This thesis was conducted in six public and private sector organisations in local government, healthcare, higher education, transport and energy located in Scotland.

The objectives are to understand the dynamics of the relationship between HR practices, individual and collective employee relations and environmental management, as well as to explore the scope for partnership working and mutual gains. The research examines a bundle of HR practices including selection, rewards, appraisal and training that can influence employees'

attitudes and behaviours. Further, as voice is an essential component of cooperative employee relations, the research examines how employee voice mechanisms are used to facilitate environmental management. Three dimensions of employee voice dimensions are examined direct versus indirect, informal versus formal, and communication versus influence. The research explores how organisational leadership and culture, as enablers of change, shape line managers' and other employees' perceptions of environmental management. Specific objectives and research questions are:

1. To identify the main drivers, stakeholders, benefits and barriers to workplace environmental sustainability.

   - What drives public and private sector organisations to implement environmental sustainability initiatives the workplace?

   - Who are the key stakeholders that influence environmental sustainability in the workplace?

   - What are the potential benefits of implementing environmental sustainability initiatives in the workplace?

   - What are the barriers to workplace environmental sustainability?

2. To explore how leadership, culture and HR practices influence environmental sustainability in the workplace.

   - How do leaders support a green or sustainability-oriented culture?

   - How do HR practices influence environmental sustainability in the workplace?

3. To analyse different forms of employee voice, direct versus indirect, informal versus formal, and communication versus influence, which can potentially enable or constrain environmental sustainability in the workplace.

   - What are the employee participation practices that support environmental sustainability in the workplace?

   - To what extent are the different forms of employee participation practices, and the interaction between them, associated with the successful adoption of environmental sustainability initiatives in the workplace?

4. To evaluate the potential for a partnership approach towards environmental sustainability in the workplace.

   - What is the actual and potential role of unions and their representatives in the process towards environmental sustainability in the workplace?

This thesis uses a combination of quantitative and qualitative research practices. To establish context, clarify the meaning of concepts, and identify key employee participation processes under investigation, the research design incorporated extensive fieldwork, such as selective semi-structured interviews and focus groups involving managers and other employees, and representatives of trade unions. Therefore, in contrast to some previous GHRM studies, this thesis focuses on how employee relations practices influence interactions between line managers and employees, and between union representatives at workplace level rather than on 'counts' of how many HR practices are supposedly present (Marchington, 2008: 247).

9.1   Contribution to Knowledge

This thesis makes a number of original contributions to knowledge. One significant contribution is to demonstrate the importance of employee relations in supporting environmental management. The evidence from this thesis shows that high-quality employee-manager relations and active engagement involving management, employees and trade union representatives can influence environmental outcomes in the workplace. This thesis indicates a strong association between the implementation of environmental sustainability initiatives and employee participation. Overall, this thesis suggests that the form of participation may be less important than the way in which it is implemented and the degree of substantive influence that employees have in practice. This is consistent with much of the extant GHRM literature (e.g., Markey, McIvor and Wright, 2016). However, as an original contribution, this thesis demonstrates that substantive employee participation, which is both deep and broad in scope (Marchington and Kynighou 2012), which includes a significant role for unions through collective bargaining, is a major contributor to more extensive activities to reduce carbon emissions, especially in unionised public sector organisations in Scotland.

Another significant contribution of this thesis it to show that partnership working and mutual gains can be a feature of a successful sustainable workplace. The research demonstrates that trade unions can play a constructive role in creating sustainable workplaces. The role of trade unions in supporting environmental management is largely unexplored in the extant literature. Moreover, few studies have investigated the potential for workplace partnership and collective bargaining that can produce higher levels of employee fulfillment and materially better decarbonising results. Indeed, the existing literature, generally written from a managerial perspective, has implied that unions might function as a 'barrier' to environmental management initiatives (e.g., Brio et al., 2008; Fernández, 2003). This thesis highlighted opportunities for

mutual gains through union involvement in low-carbon activities. Both HealthOrg and RailCo, provided evidence of how unions were taking a pro-active role in environmental sustainability change. Specifically, HealthOrg provided an example of the complexity of the challenges when dealing with the benefits and challenges of a union-management partnership at a corporate level. Moreover, each case faced quite different contexts, but stability in arrangements for union representation in the public sector or quasi-public sector organisations (e.g., RailCo) may help explain the influence of the union voice on management practices. Further, both HealthOrg and RailCo demonstrated how organisations found opportunities for formal engagement between managers and employees and managers and union representatives to contribute to low-carbon sustainability initiatives. The research found support in all of the six cases among managers and employees for enhanced management-union collaboration to optimise workplace low-carbon initiatives. Through ongoing dialogue and communication about 'decent' and high-quality work, unions have the potential to contribute to better skills utilisation in workplaces (Findlay and Warhurst, 2011). Developing and utilising new skill sets could support low-carbon innovation in the workplace. For environmental champions, skills that decarbonise the workplace could present an opportunity to pursue an 'issues-based' form of partnership on environmental sustainability, such as the TUC's 'Green Workplaces' initiative.

It is important to note that from a union perspective, the results raise a fundamental question about the effectiveness of environmental communication campaigns and techniques used to engage with members. The main inference is that to exclude unions would substantially limit any low-carbon initiatives. However, the research did find weaker support among some respondents for increased union participation in sustainability initiatives. This was explained by the lack of pro-active union involvement in low-carbon initiatives (e.g., BusCo and EnergyCo), and the environment was typically not viewed to be within the scope of a traditional union bargaining agenda.

This thesis found some evidence that sustainability initiatives improved the quality of work for employees and delivered better environmental outcomes. The evidence generated suggests that employees gained from the employer's investment in training (e.g., acquiring additional knowledge and skills), opportunities for cross-functional team working (e.g., sustainability committee or "green team"), improved worker satisfaction and customer service (e.g., employee and customer perceptions of eco-technology). At UniversityOrg, for example, employees gained additional skills and experience from the use of environmental champions and opportunities for

cross-functional team working (e.g., sustainability groups), which provided the unique opportunity for non-academic and academic employees to work together. At BusCo drivers benefitted from investments in training and technology (e.g., eco-driving) and improved worker satisfaction and customer service (e.g., driver and customer perceptions of eco-technology). Further, at UniversityOrg, HealthOrg and RailCo sustainability initiatives such as sustainable food options, community gardens, and employee walking clubs were seen to support employee health and well-being. As found by Cox et al. (2012), there were also limited examples of where behaviours learned at work do 'spill over' to home activities, especially in recycling and travel behaviours.

Although the research identified opportunities for organisational leaders to engage workers in the decisions relating to the development of sustainability strategies, collaborative knowledge sharing and mutual gains principles were either not considered by leaders or were contested by workers (e.g., the dispute on the introduction of eco-driving technology at RailCo). The findings resonates with those that argue that UK employment relations, under conditions of weak trade unions and the prevailing neoliberal climate, presents 'a highly unfavourable context for nurturing and sustaining cooperative mutuality at the workplace' (Dobbins and Dundon, 2015: 258). Specifically, it has revealed that employee voice practices were too weak for workers or unions to have a robust say in implementing low-carbon initiatives. At best, managers tended to perceive a need only to 'communicate' rather than actively 'engage' with workers and their unions over environmental sustainabilty changes (Dobbins and Gunnigle, 2009; Dobbins and Dundon, 2015). The research suggests opportunities for organisational leaders to rethink their approach to developing sustainability strategies, one that considers mutual gains for employees and employers.

This thesis makes an important empirical contribution to the extant body of GHRM research by identifying a variety of internal and external drivers for implementing sustainability initiatives. It showed that in all six organisations meeting regulatory compliance requirements underpinned the different sustainability initiatives, and provided the context for other observed drivers. The findings demonstrate that in the private sector cases some of the most important drivers were managing organisational risk, reduced costs/efficiency factors, environmental values of employees, meeting customer demand and, relatedly, so-called green marketing. The findings are consistent with several studies that indicate that organisations that recognise that their operations face significant environmental risk issues are more likely to implement environmental management practices (Ervin et al., 2013). More specifically, Halkos and Evangelinos (2002)

argue that firms whose managers perceived that environmental issues could affect their organisation's public image were significantly more likely to implement an environmental management system (EMS). The findings are also consistent with the research of Cox et al. (2012) and Zibarras and Ballinger's (2011) that report initiatives to reduce energy costs are one of the most common drivers for sustainability initiatives. Another important driver of change in the cases studied was the requirement for organisations to disclose their carbon footprint to allow investors to make informed decisions about whether to invest in a business. The public sector cases illustrated how financial and budgetary pressures. Managerialism facilitated planned environmental improvements as did work redesign that served to deliver cost savings (for example, CouncilOrg). This evidence is consistent with Cox et al.'s observation that: 'Pragmatic motivations for cost reduction can sit comfortably alongside pro-environmental objectives' (2012: 3). In summary, the evidence suggested that there are considerable opportunities for environmental change agents being made aware of the external influences of regulation, customers, competitors and society more broadly.

In addition to contributing to research on the drivers of change, the research also makes a contribution to understanding the influence of internal and external stakeholders' on sustainability strategies. The research showed that in all six cases government, shareholders, customers, and the local community were considered important external stakeholders. Internally, the responsibility for implementing and managing sustainability initiatives lies with different functions and actors across different organisations. A key finding of the research is that while workers were important stakeholders, trade unions were not considered a significant driver or enabler of workplace low-carbon activity. The exception was found at RailCo and HealthOrg. In both organisations there are opportunities to increase the level and quality of engagement between managers and unions. Scottish research suggests that dialogue between employees and workplace environment 'champions' may be an important medium for providing information, advice and guidance on change (Cox et al., 2012: 20). Successful environmental champions have been found to display behaviours such as issue scanning, issue framing, issue presenting and influencing top management (Andersson and Bateman, 2000). At RailCo, the union representatives were willing to contribute to the sustainability strategy particularly through a union-led learning initiative in the workplace. Externally, the findings suggest that increased collaboration with suppliers and local communities were part of a comprehensive sustainability strategy (e.g., UniversityOrg, HealthOrg, RailCo, EnergyCo). Similar to the research undertaken by Walker et al. (2008) this finding also demonstrates that in the public sector sustainable and transparent supply chain policy can drive low-carbon initiatives.

The research also makes a contribution to understanding the internal and external barriers to change. It showed that in all six cases time and resources associated with employee and union engagement were perceived to be significant barriers to environmental sustainability change initiatives. Middle and line managers are enablers of change and play a key role in the delivery of operational training (McGuire and Kissack, 2015) It is increasingly appreciated that line managers craft their own narrative in HR irrespective of formal HR policies, something that is apparent in multidimensional policy areas such as low-carbon initiatives, which is profoundly dependent on line manager enactment (Purcell and Kennie, 2008). The salient point that emerged from the research, however, is that active and visible support of senior managers and line managers was essential. The absence of leadership and line manager support was a key barrier to change. It is not surprising, therefore, that line managers' support and participation in any low-carbon initiative were perceived by respondents and knowledgeable participants to be a critical success factor at RailCo, for example. The evidence resonates with the strategic HRM literature that emphasises the critical role of line managers (Purcell and Kennie, 2008) and the importance of employee engagement (Kotter, 2012) for enacting and embedding low-carbon behaviours inside the workplace. This is consistent with the research of Cox et al., (2012: 61), Brio et al., (2007), Fernández et al. (2006) and Zibarras and Ballinger's (2011) that suggests line managers are critical to embedding pro-environmental practices because they commonly act as the closeted senior role models to employees and also often influence important 'material factors' such as the immediate work schedules of employees. The findings corroborate extant research that argues that the commitment of senior managers is a critical success factor in initiating and sustaining workplace initiatives, 'primarily because they are custodians of resources that are required to make projects successful' (Cox et al., 2012: 19; see Feasby and Wells, 2011; Zibarras et al., 2011).

The qualitative data shed light on the importance of leadership competencies in encouraging employee pro-environmental behaviour. Effective leaders can use rhetorical techniques such as stories and visionary speeches to motivate workers to reflect on sustainability values and pursue low-carbon goals (Roberston and Barling, 2015). However, the findings from this research indicate moderate agreement with statement about managers' leadership behaviour. In all six case studies the results suggest that a greater percentage of managers were satisfied with their level of involvement in environmental decision-making compared to employees. This is consistent with reported survey findings 'that between 30 and 40 per cent of respondents feel

that managers are not supporting and leading such behaviours in their organisations' (Zibarras, Judson and Barnes, 2012: 12). Evidence here suggests that line managers and other change agents should understand that their own visible leadership behaviour and the organisation's culture and climate directly and indirectly affects other managers' and, importantly, other employees' pro-environmental behaviours.

This research has affirmed the importance of organisational culture and climate in change strategies, and has highlighted the use of selective HR practices to manage organisational culture. It is evident that organisational culture is already a vast canvas and, of necessity, the analysis of interpretive practice in this aspect of management in the case studies is restricted. The research did however demonstrate that sustainability initiatives to decarbonise the workplace are about much more than energy efficiency technologies or, more pejoratively, 'changing light bulbs'. This thesis has shown that while extant studies tend to focus on environmental management as an energy reducing system and as a waste control tool, this thesis has added to the literature by highlighting that successful environmental management is an employee involvement and motivational process. The findings confirm that involvement of employees in low-carbon activity is essential to successful outcomes (Cox et al., 2012). Moreover, environmental management is not a simple entity, but an ideology that underpins a wide range of management practices.

Wider organisational and human factors are likely to be more relevant to environmental outcomes than material factors' in making environmental sustainability initiatives effective. Following Fox's (1985) classic terminology, the sustainability initiatives examined in this thesis involved more than 'material technology' but included an array of 'social technologies'. For example, the research found some evidence in the private sector cases of financial involvement to support workplace sustainability initiatives (e.g., EnergyCo). Consistent with the research of Zibarras and Ballinger (2011) the findings identified financial rewards as the least effective mechanism for environmental management. Research suggests that individualised financial participation may be used as part of a bundle of HR practices that support employee low-carbon behaviour (Cox et al., 2012: 42). Similarly, consistent with other studies this thesis found that environmental criteria has not been formally integrated into the recruitment and selection process (e.g., Gully et al., 2013; Rupp, et al., 2013). Although examining across the cases the key feature of this social technology included environmental training, target setting, quantifiable performance indicators and appraisal. Organisational cultures are a cluster of negotiated meanings (Ardichvili, 2015: 302), and, in general, these findings support previous research to the

effect that employee training and development is a key HR intervention for developing a pro-environmental or 'green' culture (Garavan and McGuire, 2010; Sarkis et al., 2010).

Mainstream GHRM scholars (e.g., Govindarajulu and Daily, 2004) posit that without performance appraisal employee environmental improvement efforts may falter. This thesis found some evidence to support the extant studies. The use of appraisal was used only at RailCo and EnergyCo at an individual level. At RailCo and EnergyCo a performance appraisal system (PAS) was used to change organisational culture and climate by measuring and evaluating employees' performance behaviours. Environmental sustainability is multidimensional and an ongoing problem in appraising employees' pro-environmental behaviours is the development and reliability of an instrument for assessing them. This finding corroborates other studies showing that PAS are increasingly an important HR practice in most OECD countries (Farnham, 2015: 281). Surveys in the UK also report increasing adoption of formal performance appraisal. Between 2004 and 2011, for example, the percentage of workplaces formally appraising at least some non-managerial employees increased from 43 per cent to 70 per cent (van Wanrooy et al., 2013: 98).

This research found that a high level of involvement of employees facilitated the introduction and long-term support for sustainability initiatives. The evidence from HealthOrg and UniversityOrg, for example, demonstrated that employee involvement and face-to-face communication is critically important in any organisation planning to construct a low-carbon workplace. This finding is consistent with Cox's et al. (2012) and Sammalisto and Brorson's (2008) research that reports that dialogue and communication about sustainability initiatives is one the most commonly used and effective methods for enhancing behavioural change that supports workplace sustainability. The evidence is consistent with Zibarras and Ballinger's (2011) observation that the top three facilitators for effective environmental practices were: [1] engagement and commitment from employees, [2] managers' support and openness to pro-environmental practices and [3] senior management commitment. At HealthOrg and UniversityOrg, employee-led work teams were assigned the primary responsibility for developing an involvement culture, whereby employees felt more confident and motivated towards the organisation's sustainability objectives. Other studies show that employee voice mechanisms such as "green teams" (Beard and Rees, 2000; Daily, Bishop, and Steiner, 2007) are major elements of the GHRM strategy, because they provide workers with an opportunity to use their intimate knowledge of work and expertise to generate creative low-carbon initiatives. There was,

of course, an exception to this observation. At BusCo low-carbon initiatives were implemented through top-down leadership and investment in new transport technology.

Critical research typically focuses on unintended consequences arising from management practices. Through gathering empirical data from private and public sector cases this research makes an important contribution to a body of knowledge known as GHRM. It found that indeed some green HR practices had unintended consequences. For example, it has drawn attention to EnergyCo's appraisal procedures that specifically articulated the nature of the appraiser's authority and the extent of a judgemental role (Townley, 2005: 312), but concomitantly, it highlighted that the appraisal systems had a negative influence on employee relations and had a negative impact as far as increasing the workload for line managers.. This thesis agrees with findings of Scholarios and Taylor (2014) and Townley (2005) in that appraisal techniques is a social technology that seeks to regulate and shape employee behaviour and in the private sector cases was active in the constitution of managing low-carbon workplace behaviours. Consistent with Chan and Hawkins' (2010) research, interviewees also explained that performance management could be used for negative reinforcements (such as criticisms, warnings and suspensions) if employees lapsed in meeting their environmental targets. Arguably adopting such negative reinforcements may be counterproductive and lead to workers failing to disclose environmental problems because they engage in 'self-protective behaviours' (Renwick et al., 2013: 5). The findings documented in this thesis are consistent with the critical research of Taylor (2013) and Scholarios and Taylor (2014) that report on the forced use of the Bell Curve, increased management control, the resulting intensification of work for both managers and other employees, and the lack of investment in management training for implementing PAS. Consistent with GHRM research the qualitative evidence employed in this research sheds light on the challenges of measuring environmental performance across different departments/units and particularly at an individual level (Renwick et al., 2013: 5).

In explaining the findings of PAS in the public sector cases context matters (Ferlie and Ongaro, 2015). For over two decades, fiscal and political pressures have changed HR practices and a striking feature of public management has pressure to "enforce a more 'business-like' approach" to managing resources and the employment relationship. Further, relatively high unionisation and the existence of centralised systems of pay determination 'usually left little scope for managers to alter employment conditions' (Bach and Kessler, 2008: 474). Not surprising, therefore, in all three pubic sector cases the environmental criterion in employee performance

appraisal or 'personal improvement planning' (PIP) was not well developed or systematic and for the majority of employees environmental performance was not an aspect of work that was formally evaluated. However, to some degree in all three public sector cases, but especially at CouncilOrg, there was a culture of managerialism, best illustrated by the use of quantifiable 'targets', the rhetorical reference to 'evaluate outcomes' and the need for 'devolved budgets'. The research found that line manager–employees relations, rather than green HR practices, featured more prominently in shaping low-carbon practices and behaviours. This observation affirms the need to be context-sensitive. Finally, this thesis makes a number of conceptual and empirical contributions to GHRM.

For the first time this thesis brings together distinct bodies of literature to investigate on how employee relations practices influence environmental sustainability in the workplace. Conceptually the case is made for a more inclusive understanding of employee relations that encompasses both individual and collective dimensions of the employment relationship. This thesis suggests that most sustainability initiatives focus on material factors or infrastructure changes and tend to neglect individual or group level changes that can influence employees' behaviourial activities. This may well reinforce the perception that investing in energy-efficient technology is an easier option than investing in social technologies. Consistent with other studies, this thesis highlights that the wider organisational and individual factors are likely to be more relevant to environmental outcomes than material factors' in making environmental sustainability initiatives effective (Cox e al., 2012). More widely, this thesis adds to the HRM field by bringing together a diverse range of literature on strategy, leadership, management and employee behaviour and culture that hitherto have been neglected in the GHRM discourse. In doing so, it encourages new perspectives and interpretations of workplace environmental sustainability.

9.2 Recommendations for Future Research

In recognition of the opportunities for future research, further quantitative and qualitative research projects should be considered, and these could be shaped by the outcomes from and limitations of the current inquiry. Further research consideration could be afforded to theoretical developments as well as issues of research methodology and design. One of the most important directions for future research is to develop the concept of workplace sustainability or 'sustainable organisational performance' in the fields of HRM and employment relations. This thesis has provided empirical evidence of how sustainability is understood in Scottish workplaces. Future

research would help workplace scholars, practising managers and consultants to incorporate the concept of sustainability at the organisational and workplace level. For example, future research could examine sustainability beyond the mainstream environmental management approach characterised by the narrow and limited concepts of health and safety and environmental performance to include the concepts of health and well-being, diversity and workplace learning, creativity and innovation. Developing the concept of sustainability to consider outcomes beyond organisational operational needs and the cost-effectiveness rationale will not only broaden its utility, but may also help to develop a sustainability policy that relates to the everyday lives of workers, in which work plays an important role and that also focuses on addressing society's needs (Lund, 2004).

This thesis examined the characteristics – individual and collective – of the employment relationship and the types of HR practices that can impact on environmental management goals and objectives. In relation to this, the research raises the following questions related to the role of HR practices in supporting environmental management, the benefits of cooperative workplace relations and the union contribution to creating sustainable workplaces: where in the organisation (which functions, at what levels) are managers most likely to understand the value of aligning HR practices with environmental goals, and become willing partners in change efforts? What types of activities are most effective in stimulating employees' desire to learn and in creating active employee engagement in environmental issues at work? To what extent is it possible to develop management and employee cooperation within organisations in order to achieve, simultaneously, more sustainable workplaces and employee voice? How do unions respond to the challenges of the new corporate sustainability agenda? Furthermore, to what extent does the challenge of sustainability in general present new opportunities for trade unions in terms of redefining the movement's objectives?

Methodologically, the vast majority of research studies in the field of GHRM are biased towards large organisations. This thesis is no exception. Investments in low-carbon activities are not limited to large organisations, and further work should be conducted to understand the barriers to and opportunities for low-carbon behaviours in SMEs. Additionally, future researchers could examine employee relations and environmental sustainability in public sector organisations, in small and medium enterprises (SMEs) or in organisations that are not pursuing sustainability strategies. There is a contested argument that some models of strategic management have enhanced applicability to many contemporary public sectors (Ferlie and Ongaro, 2015), and for

that reason, future researchers should explore the different cultures that exist between public and private organisations and the implications for low-carbon initiatives. Further, organisations already known for their sustainability initiatives were sought for this thesis. Consequently, this thesis does not uncover all the barriers facing those organisations that are not pursuing sustainable workplace practices. More research could be conducted amongst those workplaces where low-carbon activities and practices are not well developed, although the reputational aspects of environmental management might make identification of such organisations difficult.

Workplace research needs to be cognisant of organisational or sector contingencies and to consider the forms HR interventions might take in contrasting workplaces. As well as the broader sociocultural context in which organisations are embedded (Watson, 2008, 2010), in Scotland, for example, the politico-administrative and trade union culture strongly shape some of the very basic premises for the management of public service organisations. Although this thesis has provided vivid examples of how HR practices contribute to the achievement of sustainable low-carbon workplaces, methodologically, there is the problem of establishing the direction of the relationship or 'reverse causality' (Marchington, 2008). Sustainable workplaces operating as a monopoly or in favorable market conditions will both be able to meet the cost of sophisticated GHRM systems and invest in them. More research is required that measures the GHRM-performance relationship. As Davis and Coan (2015: 262) note, to evaluate the effectiveness of change programmes, successful criteria need to be carefully selected to reflect the aim of improving environmental sustainability. A distinction needs to be made between simply counting the number of new low-carbon initiatives being introduced and the measuring resulting impact on the organisation and the environment. Further, the question of success of a particular management practice poses tricky problems around the unit of analysis (Pollitt, 1998: 60). For example, following the application of managerial techniques a local council may be seen to become more efficient, in a sense that energy consumption falls. However, if the scope of analysis is widened it may be discovered that the council's waste collection service is worse.

9.3   Limitations of the research

As with any research there are limitations. This thesis is limited in two main ways. Firstly, the research is inherently limited by the focus on large award winning Scotland-based organisations. Clearly the case studies are atypical. Secondly, the participants interviewed were mostly managers. These limitations are discussed in more detail below.

First, as already noted, this thesis has focused on the top tier of organisations in Scotland, and all six had received accolades for being 'green' or 'sustainable'. Thus, for reasons of size and experience of low-carbon initiatives the case studies are atypical of Scotland's economic landscape.

Second, reflecting more upon the participants in this thesis, more employees, non-union environmental champions and union representatives could have been included in the study. The data would have been more representative and richer with the inclusion of additional employees and union and non-union environmental champions. For example, sustainability strategies built around mutual gains are underplayed in the theory and practice of environmental management. Future research could also consider the contribution of trade unions in making a positive contribution to workplace-level low carbon activity, while acknowledging that employee voice is a relational concept and is reflective of perceived bargaining power.

Finally, this thesis has suggested that wider organisational and individual factors are likely to be more relevant to environmental outcomes than material factors' in making environmental sustainability initiatives effective. Folllowing Pollitt (1998), environmental management has an ideology, rhetoric and a set of practices (Pollitt, 1998: 46). The ideology of environmental management rests upon the assumption that better management (rather than government regulations and compliance) offers the best opportunity to reduce carbon emissions. The rhetoric of environmental management accepts the starting point that 'efficiency' goals are self-evident and employs a cluster of metaphors around quality, customer choice and the degradation of the planet to justify management strategy. Environmental management is not a single practice or a cluster of techniques but it combines an ideology and a range of material and social technologies (Fox, 1985). To explore the dynamic connection between environmental management, organisational culture and low-carbon initiatives and behaviours future researchers need to employ research designs that utilise both quantitative and qualitative multi-year longitudinal approaches over an extended period of time. For example, through analysing interpretative practice (Holstein and Gubrium, 2000: 488) research could examine the ideology, rhetoric and practice of formal and informal engagement between managers, other employees and unions over several points in time. This could serve to enrich the empirical base of the existing GHRM literature and also contribute to the management research agenda.

9.4   Practical Implications

A final contribution of this thesis is a number of applied recommendations for future practice, which emerged from the empirical data collection and analysis. These applied recommendations are aimed toward private and public health organisations and, more specifically when planning to introduce low-carbon initiatives, which will help embed workplace pro-environmental behaviours.

The first recommendation is for employers and employees to engage in more substantive forms of participation over sustainability and environmental issues (Markey, McIvor and Wright, 2016). In five of the six cases wider employee participation has been identified as one of the most successful strategies for improved environmental outcomes. Early involvement with employees to help in the design and implementation of any change initiative can be an effective means of managing organisational change (e.g., UniversityOrg, HealthOrg, RailCo). As noted creating a low-carbon workplace is a discursive undertaking, and fostering dialogue about sustainability and investing in resources (e.g., time) for unions, employee and employers to work together could help embed pro-environmental values and behaviours. It also helps to maximise the benefits of shared knowledge and distributive leadership. This thesis demonstrated that successful low-carbon initiatives engaged a range of stakeholders who shared an interest in workplace sustainability: senior executives, HR managers, environmental managers, operations managers, pro-environmental champions, union environmental representative and workers, as well as interested stakeholders in the local community. Indeed, the research found that unions made a significant positive contribution to some of these initiatives (e.g., eco-driving training at RailCo). Unions were able to influence the design, development and implementation of sustainability initiatives to produce identifiable benefits.Indeed, the research found that unions made a significant positive contribution to some of these initiatives (e.g., eco-driving training at RailCo). Unions were able to influence the design, development and implementation of sustainability initiatives to produce identifiable benefits.

The second recommendation is that all workplace stakeholders could benefit from improved HR and environmental management knowledge and expertise to help with the development and implementation of low-carbon initiatives. As demonstrated in the EnergyCo case, this is particularly relevant for initiatives that involve changes to policies affecting employees' terms and conditions of employment

The third recommendation is for organisations to develop a sustainability-oriented, low-carbon organisational culture by recruiting new employees and senior managers into the organisation who value environmental sustainability; by providing training and informal learning opportunities to workers and line managers to increase environmental awareness, knowledge, and skills utilisation. The case study evidence demonstrates that training interventions could include training on environmental responsibilities and how to successfully champion and communicate pro-environmental ideas. Furthermore, to facilitate low-carbon innovations HR reward practices could link or strengthen the pro-environmental behaviour-reward linkage using both formal (e.g., recognition and rewards schemes) and informal (e.g., recognition and praise) mechanisms. This thesis demonstrated that some HR practices can be effective across a variety of contexts and, some carry 'unintended consequences', as demonstrated when appraisal was introduced at EnergyCo. Therefore, the issue of context is paramount.

The fourth recommendation is for organisations to assess and monitor operational performance to help identify areas where greatest impact on environmental performance and cost savings can be made (Cox et al., 2012: 63). The research evidence (e.g., HealthOrg, UniversityOrg, RailCo, EnergyCo) demonstrated that providing feedback to line managers and other employees on carbon emissions performance helps generate momentum to maintain low-carbon behaviours. Moreover, as highlighted in both the HealthOrg and RailCo cases feedback also facilitates informal learning and potentially helps identify areas for improvement and new low-carbon activity.

Finally, organisations should recognise the importance of employee relations. One key lesson from the research is that cooperative, rather than conflictual, employee relations bring mutual gains for employers and employees. For example, the HealthOrg case study illustrated a partnership approach that created opportunities for mutual gains for both employees and the employer. In Scotland, recent research shows that on-going dialogue and negotiation between unions and employers can secure both on-going competitive success and high quality jobs for workers (Scottish Government, 2014: 24). In a public sector context, such practical bottom-up activities are more likely to be successful than a 'top-down' approach. In the public sector, the research highlighted the contribution of Union Environmental Representatives, which adds support to the Working Together Review's (Scottish Government, 2014) recommendation that Environmental Reps should be given access to adequate training and facility time to perform their role effectively. Overall the case study evidence provided some evidence that sustainability

low-carbon activities improved the quality of work for employees and delivered better environmental outcomes. Importantly, any low-carbon strategy needs to be context-sensitive and should acknowledge the external pressures compelling transformative change and benefits in terms of efficiency and improved engagement of workers, trade unions and external stakeholders but practitioner arguments and decarbonising data need to be transparent and available for democratic scrutiny.

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Appendix A: Registry of sustainable workplaces

Sector	Description/ Details	Organisation's Name	Sustainability Policy / Sustainability Committee (Working Group) / Awards
Transportation	Public Transportation Companies	a) First Group plc (Rail)	a) Scotland plc Awards (Winner Sustainability, 2012)
		b) First Scotland East	b) Scottish Green Awards (Winner)
		c) Stage Coach Group plc	c) Scottish Green Awards (Winner); Scotland plc Awards (Winner Sustainability, 2012)
		d) Lothian Buses	d) Scottish Green Awards (Finalist); VIBES Awards (Winner)
Government	Local Councils	a) Glasgow	a) Policy, Working Group
		b) Edinburgh	b) Policy, Working Group
		c) Aberdeen	c) Scottish Green Awards (Finalist); Scottish Waste and Resource Awards (Winner)
		d) East Renfrewshire	d) Scottish Green Awards (Finalist)
		e) Angus	e) Scottish Green Awards (Nominee)
		f) Perth and Kinross Council	f) Scottish Waste and Resource Awards (Winner)
Healthcare	Public Hospitals	a) NHS Ayrshire and Arran / Girvan Community Hospital	a) Scottish Green Awards (Nominee)
		b) NHS Grampian / Foresthill Hospitals Campus Site	b) Scottish Green Awards (Nominee)
		c) NHS Lothian St John's Hospital -	c) Scottish Green Awards (Winner)
Higher Education	University / College	a) University of Edinburgh	a) People Planet (Finalist)
		b) Queen Margret University	b) People Planet (Finalist)
		c) Edinburgh's Telford College	c) Scottish Green Awards (Finalist)
		d) Edinburgh Napier University	d) People Planet (Finalist)
		e) Barony College	e) Scottish Green Awards (Finalist)

Energy	Electrical power industry	a) Scottish Power	a) Numerous environmental awards, Queen's Award for Sustainable Development
		b) Scottish and Southern Energy (SSE)	b) Numerous environmental awards Green Apple Award,
Food & Beverage	Brewing, dairy, & soft drinks companies	a) Wiseman Dairies (East Kilbride)	a) Scotland plc Awards (Sustainability award, Finalist 2012)
		b) The Glenmorangie Company	b) VIBES Awards (Finalist)
		c) Nestlé at Girvan	c) VIBES Awards (Finalist)
		d) AG Barr plc	d) Scotland plc Awards (Winner Sustainability, 2012)
Hotel & Accommodation	Hotels	a) Jurys Inn Glasgow	a) Scottish Green Awards (Nominee)
		b) Edinburgh Capital Hotel	b) Green Tourism Awards (Silver)
		c) The Bonham (Edinburgh)	c) Green Tourism Awards (Silver)
		d) Apex hotels (Edinburgh)	d) Numerous Awards, Environmental director award (Nominee)
		e) Gleneagles (Perthshire)	e) Numerous Awards
Construction & Manufacturing	Building Company	a) City Building	a) Numerous Awards/ Policy & Working Group
		b) Barr Construction	b) Numerous Awards/ Policy & Working Group
Pulp & Paper Industry	Paper Mill	a) Tullis Russell	a) Awards/ employee owned /partnership
		b) UPM Caledonian, Irvine	b) Government investment, new technology, Dow Jones Sustainability Index
		c) John Wilkie Paper Mill Services Ltd	c) New Technology
Financial Services	Banks & Asset Management	a) Royal Bank of Scotland	a) VIBES Awards (Finalist)
		b) Clydesdale Bank	b) Sustainability - union engagement policy
		c) Aberdeen Asset Management	c) UK Property Investment Awards / Sustainability director
Non-profit / Charity	Housing Associations	a) NG Homes (North Glasgow Housing Association)	a) Scottish Waste and Resource Awards

	(Winner); Numerous Awards
b) Clyde Valley Housing Association	b) Numerous Awards
c) Kingdom Housing Association (Fife)	c) VIBES Awards (Winner)

List of Sustainability Awards

1. Scotland plc Awards. Accessed from, //www.quaydigitalscotland.co.uk/sites/events/scotland-plc/on August 20, 2015.

2. Scottish Green Awards: Accessed from, http://www.quaydigitalscotland.co.uk/sites/events/green-awards/ on August 20, 2015.

3. VIBES - Vision In Business For the Environmental Scotland Awards: Accessed from, http://www.vibes.org.uk/ on August 20, 2015.

4. Scottish Waste and Resource Awards: Accessed from, http://www.scotwaste.org/winners.php on August 20, 2015.

5. Green Apple Awards: Accessed from, http://www.thegreenorganisation.info/ on August 20, 2015.

6. Scottish Environment Protection Agency Award (SEPA) for Excellence in Environmental Sustainability: Accessed from, http://www.sepa.org.uk/ on August 20, 2015.

7. Queen's Award for Enterprise: Accessed from, http://www.royal.gov.uk/MonarchUK/Prizesandawards/QueensAwardforEnterprise.aspx on August 20, 2015.

8. People and Planet University League Graduation Awards: Accessed from, https://peopleandplanet.org/university-league on August 20, 2015.

9. UK Bus Awards: Accessed from, http://www.ukbusawards.org.uk/content/index.php on August 20, 2015.

Appendix B: Details of study interviews

Interview type Management (M) Employee (E) Focus group (FG) Union rep (UR)	Job title	Gender	Organisation	Date
1. M	Principal Officer Environmental Strategy	F	CouncilOrg	2013.08.27
2. M, FG	Principal Officer Carbon Management	M	CouncilOrg	2013.08.13 (M) & 2013.08.18 (FG)
3. M, FG	Carbon Manager	F	CouncilOrg	2013.08.20 (M) & 2013.08.18 (FG)
4. M	Assistant HR Advisor	F	CouncilOrg	2013.08.13
5. M	Green Party City Councillor	F	CouncilOrg	2013.10.23
6. M	Project Lead Energy Efficiency	M	CouncilOrg	2013.08.28
7. FG	Sustainable Development Officer	M	CouncilOrg	2013.08.18
8. FG	Energy Officer	F	CouncilOrg	2013.08.18
9. FG	Carbon Management Team (a)	F	CouncilOrg	2013.08.18
10. FG	Carbon Management Team (b)	F	CouncilOrg	2013.08.18
11. FG	Carbon Management Team (c)	F	CouncilOrg	2013.08.18
12. FG	Green Warden (a)	M	CouncilOrg	2013.08.18
13. FG	Green Warden (b)	F	CouncilOrg	2013.08.18
14. FG	Green Warden (c)	M	CouncilOrg	2013.08.18
15. FG	Green Warden (d)	M	CouncilOrg	2013.08.18
16. UR	City Planner & Department Convenor (Unison)	M	CouncilOrg	2014.04.23
Subtotal: 6(M), 1(FG), 1(UR)	N = 16 participants	9 (F) & 7 (M)	CouncilOrg	2013.08.13-2014.04.23
17. M	Sustainability Manager	M	HealthOrg	2013.07.08
18. M, FG	Head of Unit, Chair of Sustainability Group	F	HealthOrg	2013.07.08 (M) & 2013.08.27 (FG)
19. M, FG	Conference Coordinator, Environmental and Equality Lead	F	HealthOrg	2013.07.09 (M) & 2013.08.27(FG)
20. M	Estates Manager	F	HealthOrg	2013.07.08
21. E, FG	Conference Coordinator, Health Promoter Lead	F	HealthOrg	2013.07.09 (E) & 2013.08.27 (FG)
22. FG	Conference Coordinator, Travel Champion	F	HealthOrg	2013.08.27
23. FG	Office Manager	F	HealthOrg	2013.08.27
24. FG	Administrative Assistant	F	HealthOrg	2013.08.27
25. FG	Library Services Manager	F	HealthOrg	2013.08.27
26. FG	Conference Coordinator	F	HealthOrg	2013.08.27
27. UR	Wellbeing and Equalities Manager & Steward (Unison)	F	HealthOrg	2013.10.07
Subtotal: 4(M), 1(E), 1(FG)	N = 11 participants	10 (F) & 1 (M)	HealthOrg	2013.07.08-2013.10.07
28. M	Sustainability Advisor	M	UniversityOrg	2013.07.02
29. M	Deputy Director of Human Resources	F	UniversityOrg	2013.08.22
30. M, FG	Sustainability Engagement Manager	F	UniversityOrg	2013.07.21 (M) & 2014.01.15 (FG)

Interview type Management (M) Employee (E) Focus group (FG) Union rep (UR)	Job title	Gender	Organisation	Date
31. M	Sustainability Communications Manager	M	UniversityOrg	2013.07.07 & 2013.07.16
32. M	Operating Manager	M	UniversityOrg	2013.07.16
33. FG	Sustainability Programme Manager	M	UniversityOrg	2014.01.15
34. FG	Programme Facilitator - Laboratories	M	UniversityOrg	2014.01.15
35. FG	Sustainability Engagement Facilitator (a)	M	UniversityOrg	2014.01.15
36. FG	Sustainability Engagement Facilitator (b)	F	UniversityOrg	2014.01.15
37. FG	Sustainability Engagement Facilitator (c)	F	UniversityOrg	2014.01.15
38. UR	School Administrator, Convenor of the Joint Unions Liaison Committee & Environmental Representative (UCU)	F	UniversityOrg	2014.01.15
Subtotal: 5(M), 1(FG), 1(UR)	N = 11 participants	4 (F) & 7 (M)	UniversityOrg	2013.07.02-2014.01.15
39. M	Environmental & Corporate Social Responsibility Manager	M	BusCo	2013.08.21
40. M	Head of Human Resources	M	BusCo	2013.08.21
41. E	Head of Operational Risk	M	BusCo	2013.08.06
42. E	Network Manager	M	BusCo	2013.08.06
43. E	Assistant Depot Manager	M	BusCo	2013.08.06
44. E	Commercial Projects Officer	M	BusCo	2013.08.06
45. E	Business Development Analyst	M	BusCo	2013.08.06
46. E	Marketing Communications Coordinator	F	BusCo	2013.08.06
47. UR	Driver & Shop Steward Convenor (Unite)	M	BusCo	2013.12.16
Subtotal: 2(M), 6(E), 1(UR)	N = 9 participants	1 (F) & 8 (M)	BusCo	2013.08.06-2013.12.16
48. M	Head of Environmental Compliance and Sustainability	M	RailCo	2013.06.02
49. M	Employee Relations Manager	M	RailCo	2013.06.02
50. M	Employee Engagement Manager	F	RailCo	2013.06.02
51. M, FG	Environmental Manager	F	RailCo	2013.06.26
52. M	Graduate Environmental Manager	F	RailCo	2013.07.11
53. M	Facilities Manager	F	RailCo	2013.07.11
54. M	Operations Manager	F	RailCo	2013.06.02
55. E	Driver Team Manager and Instructor	M	RailCo	2013.08.05
56. E	Station Team Manager (a)	M	RailCo	2013.08.05
57. E	Station Team Manager (b)	M	RailCo	2013.08.05
58. E	Station Team Manager (c)	F	RailCo	2013.08.05
59. E	Station Team Manager (d)	F	RailCo	2013.08.04
60. E	Station Team Manager (e)	M	RailCo	2013.08.04

Interview type Management (M) Employee (E) Focus group (FG) Union rep (UR)	Job title	Gender	Organisation	Date
61. E	Team leader of Travel Shop	F	RailCo	2013.08.04
62. FG	Ticket Clerk	F	RailCo	2013.07.29
63. FG	Station Aid	M	RailCo	2013.07.29
64. FG	Hospitality Supervisor	F	RailCo	2013.07.29
65. FG	Relief staff	F	RailCo	2013.07.29
66. FG	Train care staff	M	RailCo	2013.07.29
67. FG	Station Grade B Platform/ Booking office	M	RailCo	2013.07.29
68. UR	Driver & District Council Secretary (ASLEF)	M	RailCo	2013.07.31
Subtotal: 7(M), 7(E), 1(FG), 1(UR)	N = 21 participants	11 (F) & 10 (M)	RailCo	2013.06.02- 2013.08.05
69. M	Carbon Reduction Commitment & Energy Efficiency Manager	M	EnergyCo	2014.06.24
70. M	Engagement Manager	M	EnergyCo	2014.04.27
71. M	Facilities Manager	F	EnergyCo	2014.04.27
72. M, FG	Engineering Team Manager	M	EnergyCo	2014.04.27
73. M	Wayleave Officer	M	EnergyCo	2014.04.27
74. M, FG	Fault Dispatcher	M	EnergyCo	2014.04.27
75. FG	Networks Manager (a)	M	EnergyCo	2014.04.27
76. FG	Networks Manager (b)	M	EnergyCo	2014.04.27
77. FG	Linesman (a)	M	EnergyCo	2014.04.27
78. FG	Linesman (b)	M	EnergyCo	2014.04.27
79. FG	Linesman (c)	M	EnergyCo	2014.04.27
80. FG	Joiner (a)	M	EnergyCo	2014.04.27
81. FG	Joiner (b)	M	EnergyCo	2014.04.27
82. FG	Joiner (c)	M	EnergyCo	2014.04.27
83. FG	Joiner (d)	M	EnergyCo	2014.04.27
84. FG	Clerk (a)	F	EnergyCo	2014.04.27
85. FG	Clerk (b)	M	EnergyCo	2014.04.27
86. FG	Labourer	M	EnergyCo	2014.04.27
87. FG	Trainee	M	EnergyCo	2014.04.27
Subtotal: 6(M), 1(FG)	N=19 participants	2 (F) & 17 (M)	EnergyCo	2014.04.27- 2014.06.24
Total: 30(M), 14(E), 5(FG), 5(UR)	N= 87 participants	37(F) & 50 (M)	All six case studies	2013.06.02- 2014.06.24

Appendix C: Interview schedule for managers

Question:	*Probe:*
1. What are the main drivers for you implementing environmental sustainability initiatives?	Are they primarily economic (e.g., cost, customers), social, environmental, regulatory drivers? Do top management value environmental sustainability? What are the risks & opportunities your initiatives are addressing?
2. Who are the key stakeholders and how do they influence environmental sustainability strategy?	Who are the stakeholders in this organisation? - customers - government - community - employees - trade unions - suppliers How do their views affect the definition and framing of environmental sustainability? What are the benefits? What are their interests?
3. To what extent does the management team communicate the environmental targets & responsibilities to employees/unions?	What type of info? How much info? What mechanisms are used to communicate? How effective / how is the effectiveness of communication evaluated? How can communication be facilitated more effectively between and among managers, other employees, and trade unions
4. What is the most difficult aspect of developing a "green" or pro-environmental culture?	What are the barriers to creating a sustainable workplace? How do leaders support a green or sustainability-oriented culture? How important is top leadership? How important is 'buy-in' among line managers? How important is mutual trust between supervisors and subordinates?
5. How do HR policies and practices contribute to environmental sustainability in the workplace?	What role does HR practices play? E.g., recruitment & selection, training, rewards, performance management, Have jobs been redesigned? (e.g., green teams)
6. Does the management team use any EIP techniques to engage staff/unions in environmental sustainability issues/ decision-making?	What EIP techniques exist? What role do senior managers play? What role do operational managers play? What role does first line managers play?

Question:	Probe:
	How successful are EIP techniques / how is the effectiveness of EIP evaluated?
	What could be done to improve EIP?
	What opportunities (if any) exist for staff or union reps to discuss issues or/and participate in decision-making? (e.g., collective bargaining; joint-decision making)
7. How can workplace employment relations contribute to creating an environmentally sustainable workplace?	How would you describe employer-employee/union relations in your organisation?
8. Is there a role for unions to contribute to environment sustainability?	What are the benefits?
	What are their interests?
	Is environmental sustainability an issue of consensus or joint agreement?
	What are the challenges?
9. To what extent does collective bargaining facilitate environmental sustainability?	What do local union reps want?
	What does union regional policy want?
10. What do you think of my questions? Is there anything important that I haven't asked about the management of people and environmental sustainability in the workplace?	

Appendix D: Interview schedule for union representatives

Question:	*Probe:*
1.) Who are the key stakeholders and how do they influence environmental sustainability strategy?	Who are the stakeholders in this organisation? - customers - government - community - employees - trade unions - suppliers How do their views affect the definition and framing of environmental sustainability? What are the benefits? What are their interests?
2.) To what extent do managers communicate environmental targets & responsibilities to employees/unions?	To what extent is senior management communicating a shared "green" vision? How can communication be facilitated more effectively between and among managers, other employees, unions?
3.) What is the union position/ policy on environmental sustainability?	Does the stewards' committee have a position/policy on environmental sustainability?
4.) How can workplace employment relations contribute to creating an environmentally sustainable workplace?	How would you describe management-union relations in this organisation? How can unions contribute to the outcomes of environmental sustainability? To what extent is environmental sustainability an issue of consensus or join agreement? What must change exist for people to contribute towards the goal of environmental sustainability?
5.) Why should unions participate in environmental sustainability issues?	What are the benefits? What are their interests? What are the challenges? Does everybody benefit from the outcomes of environmental sustainability?
6.) What has been the most significant proposal (if any) the union has made to management on environmental sustainability?	Have any union proposals on environmental sustainability been accepted by management? What has been the outcome?
7.) To what extent is environmental sustainability an issue of consensus or join agreement?	Does everybody benefit from the outcomes of environmental sustainability?
8.) Are your members interested in environmentally sustainable issues?	How aware are your members about environmental issues at work?

Question:	Probe:
	What about accessing training? Would training give greater job security? Who should deliver training?
9.) What do you see as key for unions to move forward on environmental sustainability issues?	
10.) Is there anything important that I haven't asked about union contribution to environmental sustainability?	

Appendix E: Interview schedule for focus group and employees

Question:	Probe:
1.) How can this organisation improve employee awareness about sustainability /climate change issues?	When did the environment become higher on the agenda? Do you feel top leadership value sustainability? What role do senior managers play? Is there training?
2.) How can this organisation improve communication with employees about sustainability targets and responsibilities?	To what extent is senior management communicating a shared "green" vision? What techniques are currently used for communication? How can communication be facilitated more effectively between and among managers, other employees, and unions?
3.) How can this organisation improve employee participation in sustainability issues / decision-making?	What ways can employees get involved in environmental issues? Could you describe the nature of the employment relationship? What about union involvement in environmental issues? Do you think there is scope for gains sharing? What could be benefits of more union engagement? Do you think for some employees union involvement would help? What are the key challenges of developing a more environmentally sustainable culture?
4. What do you think of my questions? Is there anything important that I haven't asked about the management of people and environmental sustainability in the workplace?	

Appendix F: Action research informed group exercise instructions

Materials checklist: post-it notes, stickers, pens, and name tags.

Introduction
- Thank participants for participating
- Explain background to research
- Explain focus group method

1) Explain method to participants.
   - Quite self-reflection
   - Working together and making connections
   - Developing an action plan
   (This processes is something you could do in your own departments)

A) Idea generation (*work individually*) (e.g., environmental improvement)
   - One piece of paper per idea
   - Share and make connections
   - 3 stars each – identify "3" most important / useful idea

B) Barriers (*work in pairs*)
   - Identify barriers for top "3" (e.g., funding, communication, training)

C) Action plan (*work in pairs*)
   - What needs to be done? (e.g., waste, water, electric)
   - Who is responsible? (e.g., environmental managers, managers, employees)

D) Identify most important or "doable" (*work in pairs*)