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DISCUSSION PAPER SERIES

Green HRM:

A review, process model, and research agenda

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Green HRM: A review, process model, and research agenda

Summary

There is a growing need for the integration of environmental management into Human Resource Management (HRM) – Green HRM – research practice. A review of the literature shows that a broad process frame of reference for Green HRM has yet to emerge. A concise categorisation is needed in this field to help academics, researchers and practitioners, with enough studies in existence to guide such modelling. This article takes a new and integrated view of the literature in Green HRM, using it to classify the literature on the basis of entry-to-exit processes in HRM (from recruitment to exit), revealing the role that HR processes play in translating Green HR policy into practice. The contribution of this article lies in drawing together the extant literature in this area, mapping the terrain in this field, and in proposing a new process model and research agenda in Green HRM.

Green HRM: A review, process model, and research agenda

Introduction

After a wealth of research into green marketing (Peattie, 1992), accounting (Owen, 1992), and management (McDonagh and Prothero, 1997), gaps still exist in the Human Resource Management (HRM) literature on the HR aspects of environmental management - Green HRM. Such gaps include an informative guide on the emergent literature, its scope and coverage, and a process model and research agenda in this field. The contribution of this article is threefold: (1) to examine and draw together the HR aspects of environmental management and map the terrain in this field, (2) to detail a model of the HR processes involved in Green HRM, and (3), to propose a research agenda to guide future research in the field of Green HRM.

We proceed first, by reviewing the literature on the HR aspects of environmental management, second, by discussing the issues arising from the review of these literatures, third, in proposing a process model of HR issues involved in Green HRM, and fourth, by providing a research agenda in Green HRM. We then offer some conclusions forward. We begin with a note on the research methodology used in this article, and then a review of the extant literature on environmental management and HRM, which covers the following HR processes in turn, namely of: recruitment; performance management and appraisal; training and development; employment relations; pay and reward; and exit.

Research methodology

The objective of this paper is to indicate significant works on Green HRM research, integrating environmental management and HRM, and to group them so as to identify gaps, issues, and scope for further research. A literature review using an archival method is adopted as it enables us to structure research and to build a reliable knowledge base in this field (Tranfield *et al.,* 2003). Our analysis process includes classifying the literature in a process model format of HRM (from entry to exit), using collected publications from the last 20 years (1988 until 2008), as this is when works on the Green aspects of HRM appear in the published literature. Research papers were delimited from the review if they did not have a focus on environmental management as it pertains to management, employees, work organisations, and the wider social arena (such as emissions from workplaces for example). This gave around 60 books, journal articles, edited works, and position papers that we are able to detail in this extant review of the literature. A full list of references is given at the end of this paper. As a guide to this paper, we acknowledge organisational practices revealed through case studies by quoting company and firm names; findings from surveys by outlining their scope (e.g. geographical location and respondent numbers); and the positions of relevant stakeholder groups by stating their full title and country of origin. We now review the literature in the field, beginning with recruitment.

<u>Literature review</u>

Recruitment

General job descriptions can be used to specify a number of environmental aspects. These include environmental reporting roles and health and safety tasks, which staff are exposed to harmful substances/potential emissions (and their extent), and matching personal attributes to needed environmental competencies, i.e. buying-in specialist competencies via new hires or investing in training. Induction for new recruits is seen to be needed to ensure they understand and approach their corporate environmental culture in a serious way (Wehrmeyer, 1996: 14).

In the United Kingdom (U.K.) environmental issues have an impact on recruitment, as survey data show that high-achieving graduates judge the environmental performance and reputation of a company as a criterion for decision-making when applying for jobs (Wehrmeyer, 1996: 18-19; Oates, 1996: 127). A survey by the British Carbon Trust shows over 75% of 1,018 employees considering working for a firm see it as important that they have an active policy to reduce carbon emissions (Clarke, 2006: 40), and another by the U.K. Chartered Institute of Personnel and Development (CIPD) reveals that 49% of their respondents take environmental credentials into account when deciding whether to take a job or not, with firms like Boots viewing the 'green job candidate' as influencing thinking in this area (Brockett, 2006: 18).

Indeed, the CIPD believe that becoming a green employer may improve employer branding and be a useful way to attract potential employees (CIPD, 2007a: 3), with

their latest CIPD/KPMG survey of 1,000 respondents stating that 47% of HR professionals feel that employees would prefer working for firms that have a strong green approach, and 46% stating that having one would help attract potential recruits (Phillips, 2007: 9). Overall, the CIPD feel that being a Green employer may:

'Help to increase motivation and engagement (through a shared set of values), reduce labour turnover (because the organisation is one in which people want to work), and improve the health of the workforce (for example, by encouraging cycling to work)' (CIPD, 2007a: 3).

Performance Management (PM) and Performance Appraisal (PA)

Using Performance Management (PM) in Environmental Management (EM) presents the challenges of how to measure environmental performance standards across different units of the firm, and gaining useful data on the environmental performance of managers. Firms like Amoco in the United States (U.S.) have tackled them by installing corporate-wide environmental performance standards (which cover on-site use, waste management, environmental audits, and the reduction of waste) to measure environmental performance standards, and developing green information systems and audits (to gain useful data on managerial environmental performance), as seen at Union Carbide, who include a green audit programme that contains field audits – which are seen as important, as they can give employees a mechanism by which they can raise any recurring problems, and gain information and feedback on past and future environmental performance of their firm (Milliman and Clair, 1996: 61-63). One way in which PM systems can be successfully initiated in an organisation is to develop performance indicators for each risk area in environmental awareness and education, as per the British example (TUSDAC, 2005: 42).

Performance Appraisal (PA) can cover such topics as environmental incidents, usage of environmental responsibilities, and the communication of environmental concerns and policy (Wehrmeyer, 1996: 15). Issues involved in environmental PA's concern the need for managers to be held accountable, so that they familiarise themselves with compliance issues. However, several of the existing PA systems in use in the U.S. seem limited to plant and division managers and executives only (for example at EG&G and Kodak), with only Browning-Ferris Industries (BFI) developing a sophisticated one for their regional and facility managers (Milliman and Clair, 1996: 60).

In the U.S., more work is seen to be needed to develop measures of Green performance baselines so organisations can compare managerial environmental performance more accurately across different plants/units, and to work out how to set goals for supervisors and employees (like assembly and manufacturing staff). There is also a need to bridge any differences in corporate rhetoric and action, and develop HR systems in PA and reward so that environmental management initiatives are not seen simply as a management 'fad' (Milliman and Clair, 1996: 52, 63-64). Overall, the literature suggests that if environmental criteria are integrated into the process of staff appraisal (by writing such responsibilities into all staff action plans), then a learning culture in EM can be encouraged (Rees, 1996: 371).

Training and Development

Training is seen in the literature as a key intervention to manage waste (in terms of both prevention and reduction), and occurs through organisations training teams of front-line employees to produce a waste analysis of their work areas. Such employees are seen as ideal staff to spot and reduce waste as they are closest to it, but they must be knowledgeable on how to collect the relevant data. Examples of best company practice in training and development in EM in the U.S. comes from Allied Signal Inc., who include a Total Waste Minimization (TWM) component into their training, whilst Nordstrom use education initiatives in general waste minimization (May and Flannery, 1995: 30, 34-35). Training seems to be one area where the role of HRM in environmental management has been recognised for some time (as job rotation provides a useful way to train Green executives or future Board members in EM, and is seen as a crucial part of successful environmental programmes (Wehrmeyer, 1996: 15). For example, many firms in the U.S. have begun training initiatives like the one at Polaroid, where training objectives are linked to their vision regarding regulatory compliance (Milliman and Clair, 1996: 53).

Training by U.S. organisations in EM often involves regulatory requirements, employee awareness, and Training on Environmental Quality Management (TQEM) (Milliman and Clair, 1996; Weise, 1992). In the U.S., issues surrounding the future use of environmental training practices include the need to counter employee cynicism associated with such programmes; to evaluate their effectiveness; to communicate with and gain feedback from external regulatory stakeholders; and how to deliver such training in terms of cost and learning objectives (Milliman and Clair,

1996: 59). Moreover, Fernandez, Junquera and Ordiz, (2003: 644-646) make the case that an environmental approach requires increases in employee awareness and knowledge of process and materials, and employee skills – meaning employees need 'integrating training' – and for employees to show an emotional involvement to attain objectives. They note that whilst some studies show a relationship between level of employee training and level of environmental development, (and that the importance of environmental training is scarce in many firms), an example of the sort of continuous training required has been established in IBM's advanced training programme.

Comparative company examples of environmental training in Europe include those from Germany and Britain. For example, at Adam Opel AG in Germany, environmental issues are integrated within the training programmes given with all new projects and processes, and in the U.K. at General Electric Company (GEC), all of their companies are required to work out their own environmental targets individually. At GEC, such training proceeds in three stages: of training content such as environmental legislation, BS7750 and the Environmental Management System (EMS) (for environmental managers); issues like waste management, transport and air emissions; and a discussion of treating waste and ground water, communications, awareness-raising and risk management. GEC Management College also supplies an environmental training pack for their companies (North and Daig, 1996: 255-257).

In Germany, all employees at Siemens receive some environmental training, with a focus on those involved with the treatment of hazardous waste/dangerous substances and interested specialists. Such training is an element of the in-house training

programme taking at least one day during working hours, and has produced 5,000 suggestions a year from plant employees on environmental protection (North and Daig, 1996: 257-259). In the U.K. at Imperial Chemical Industries (ICI), every operator attends a training session on Integrated Pollution Control (IPC), and there is a one-day introductory environmental training course for managers and supervisors in EM (North and Daig, 1996: 263). In Britain, some approaches to environmental training at ICI and for the British Institute of Environmental Management (IEM) use interactive sessions, as formal classroom approaches are not seen to work (Bird, 1996: 227; North and Daig, 1996: 265). In general, British firms are seen to focus too much on issues such as systems, procedures, audits, and manuals, and German ones on those surrounding the use of a European Management and Audit Scheme (EMAS) (North and Daig, 1996: 269).

Examples of company environmental training in Britain include those at Carson Office Furniture Systems, Ready-Mixed Concrete, Rolls-Royce, Albion Group, and Bristol-Myers Squibb, who include induction training for new staff, awareness training for more experienced employees, and training on specific green topics for staff specifically associated with environmental operations and/or co-ordination (Bird, 1996: 233-235, 245). Othe examples of company training include a CIPD/KPMG survey reports 42% of U.K. organisations surveyed educating and training employees in business practices that are environmentally friendly (Phillips, 2007: 9), work at E.ON who see HR as a key group in terms of embedding a new green culture into their firm 'through training, communication, support and building objectives' (Clarke, 2006: 42), and at first direct, who view HR as well-placed to educate staff about the environment (Simms, 2007: 36). A view from some commentators is that training in

energy efficiency could be a long-term economic investment (Phillips, 2006: 1), that people managers may be able to build environmental considerations/responsibilities into job descriptions and/or team objectives (CIPD, 2007a: 1), and that underpinning theory in the field is that 'the most advanced environmental approaches are people intensive and depend upon tacit skill development through employee development' (Brio, Fernandez, and Junquera, 2007: 494).

A number of steps may be used to establish an environmental training system, such as an audit of existing training system resources and activities, forming a corporate environmental committee (with HR representatives, environmental professionals and other executives on it), a job analysis producing a job description, and environmental awareness as part of induction training (as done at the Body Shop in the U.K.), or to use a performance management system to monitor and review performance on productivity, quality, wastage and accidents. This may be followed by training to do the job, and an assessment of the attitudes, knowledge and skills staff may need for future roles. The timing or sequencing of training then needs to be assessed, as it could be that the firm can build it into their existing provision (as health and safety training could include an environmental element, or management development programmes could include environmental exercises), with organisations needing to evaluate and review the success of the training they have provided (Wehrmeyer and Vickerstaff, 1996: 342-347).

In the British public sector, the Environment Unit at Kent County Council (KCC) have developed their own strategy for the training and development of staff, with 'Green teams' established in each department, producing general awareness and

specific training in EM (designed to increase personal ownership and shift staff to taking personal action). However, barriers to developing such ownership have emerged there, such as a lack of commitment and will by senior members; cynicism regarding the importance/relevance of the issues involved; a lack of resources and time; green fascism/policing; a developing new bureaucracy; cost constraints; communication and monitoring problems in such a large devolved organisation; and knowledge gaps in EM (Rees, 1996: 363-367).

Results from the Green teams programme at KCC have seen only 1 in 500 staff being trained effectively (i.e. where role and responsibility change has occurred), green teams viewing other staff abdicating their responsibilities, some staff giving a token response or rejecting such environmental issues aggressively (perhaps because Green options were not well-defined and difficult to quantify), and this initiative being difficult to maintain in the face of other managerial priorities (like health and safety, TQM, and Investors in People) (Beard and Rees, 2000: 32-34). However, the Green teams at KCC have scored some successes, like establishing EM on departmental agendas, plans, and projects, and seen KCC (as a whole) embrace a green agenda, i.e. towards culture change, and is achieving cost savings, helping departments gain access to corporate funds, and to implement programmes in EM too (Beard and Rees, 2000: 35).

European trade unions see that they have a role to play in terms of environmental training. In Denmark for example, trade unionists see safety representatives as the main source on gaining information on the courses on EM that are available to them, but show little support for further updates/relevant knowledge in EM to be supplied

by an official retraining programme for semi-skilled workers (AMU), and/or further vocational training programmes either (Madsen and Ulhoi, 2001: 59-61). In Britain, the Trade Union Congress (TUC) has established its own body on sustainability, the Trade Union Sustainable Development and Advisory Committee (TUSDAC)[1], which calls on all U.K. employers to develop employee training and skills in energy-efficient technologies, like those seen by work from the Transport and General Workers Union (T&G) at Millenium Chemicals, where joint and regular environmental training and green briefings take place (TUSDAC, 2005: 41).

Although TUSDAC state that union representatives face the problem of getting paid time off to attend green development courses, a number of unions have included the environmental issue in their activist training. For example, the T&G run a diploma course with London Metropolitan University, and the TUC has its own three-day EM course. A joint initiative exists between Envirowise, TUSDAC, and the Carbon Trust – who have published an Environmental Education pack for Trade Unionists (TUSDAC, 2005: 46-47), and Amicus representatives participate with Legal & General in a half-day environmental training course (ACBE/TUSDAC, 2004: 11).

In the U.K., several concerns regarding the use of training and development in EM. These include how to combat the general lack of take-up in training and education on environmental issues; how to re-train any employees who have lost jobs in the relevant polluter industries; how to increase the low level of understanding about the impact of environmental issues at work and home; and how to improve the eco-literacy of managers (Oates, 1996: 136; Bird, 1996: 227). To tackle such concerns, the

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[1] The British TUSDAC is a joint body of the TUC and DEFRA (TUSDAC, 2005: 9).

IEM has established and delivered training workshops for environmental managers, including raising awareness and skills in EM. The IEM programme recognises a link between organisational eco-literacy and success in EM (Bird, 1996: 227-228).

Training Needs Analysis (TNA)

To assess the training required in environmental management, a Training Needs Analysis (TNA) is a useful first step in terms of assessing what environmental knowledge and skills staff need (Anthony, 1993). Company practices in the U.S. include using specialists to design such TNA (as seen at Duke Power), and another is to survey employees regarding their levels (Milliman and Clair, 1996: 53). The corporate environmental training committee at Duke Power oversees and investigates their environmental training needs (signalling to managers that EM is important, and has resources dedicated to it), and Rothenberg (2003: 1794-1795) has found that most environmental projects at NUMMI (the joint venture between General Motors and Toyota in California) combine more than one category of knowledge. For example she details how they are moving to use a less toxic cleaner, which involves contextual, process, and intra-organisational knowledge, and how the NUMMI organisational structure and culture are 'uniquely situated' to support combinations of knowledge, (as the training workers in lean plants receive facilitates 'employees' ability to understand data on material use and identify solutions').

One company approach at BASF in Germany is to investigate training needs using an internal suggestions scheme, with plant managers being asked identify their own needs and those of others, and all employees being provided with practical and

theoretical training and briefings on environmental protection and safety (North and Daig, 1996: 264). Overall, in the areas of training and TNA, problems include extra work for operational-level managers and workers (i.e. new restrictions and rules); ensuring that managers release staff for training; and integrating training into appraisals and performance management systems. For example, at the Australian Utility ESB, gaps are seen to appear between management decisions and the environmental performance of the branch, such as technical inadequacy, managerial and employee ignorance, and the misuse of management time (Wehrmeyer and Vickerstaff, 1996: 342-346, 351).

Development

Some authors see that there is a need to change education and training programmes in EM to broaden environmental specialists into managers (i.e. generalists), meaning that the competencies that environmental executives require are similar to other business leaders (James and Stewart, 1996: 149-150, 160). Examples of this shifting skill set can be seen in the chemical industry in Europe, where DuPont look for engineers with technical skills plus a specialist environmental formation (and not vice-versa) and also value communication skills too, whilst at Usinor Sacilor they expect environmental organisers to be co-ordinators, working in cross-disciplinary teams. A problem for educators lies in how to provide environmental and business skills to environmental professionals, as they are broader in scope to those provided by traditional training (Miller, 1996: 310, 312, 314).

In Sweden, the skills now needed to develop EM in companies mean that managers at some firms have changed their attitudes to EM itself. For example, such issues are seen there as strategic ones, as uncertainties exist in EM, and there is a scarcity of reliable models in EM also. In addition, such problems are complicated, so tools need to reflect these issues (making knowledge management important to understand and utilise) (Dobers and Wolff, 1996: 280), and there is also a lack of good environmental information available to company managers (Ramus, 2001: 102). A good example of the complexity involved in EM lies in the mobile telephone sector, where such phones are seen to contain fourteen different technological areas, meaning that mobile phone firms may need to develop ecological technologies that take care of pollution during production and the use and waste process for each of them (Dobers and Wolff, 1996: 284).

One of the problems facing environmental managers is that there are few reliable decision-supporting models to convince boards that ecological investment is, or could be, profitable, and poses the challenge forward for such managers to gradually install ecological values in management (Dobers and Wolff, 1996: 284-285). So far management education is not seen to lead the way in EM (in terms of models and tools), as it is seen an isolated but not essential component of business education (revealing education is behind corporate priorities). Hence the United Nations Environment Programme (UNEP) indicates that industry needs greater awareness and education in EM for managers, training programmes for EM specialists, education for engineers and other professionals, and worker education and training in EM too (Ulhoi and Madsen, 1996: 294-296).

In Britain, some firms such as HSBC are responding to the need for more management education in EM by using big global projects to join up their global workforce (Smedley, 2007: 32), but the general patterns is that 'many universities are still not offering 'Green' courses', meaning that firms like Doosan Babcock are experiencing challenges in recruiting talent for their "clean coal" technology projects (Brockett, 2007: 9). British unions argue for sustainable development to be included in some Modern Apprenticeships, especially Amicus and the GMB (TUSDAC, 2005: 50), and environmental concerns have moved from being one element of Corporate Social Responsibility (CSR) to now being concerned with personal skills development and teambuilding for employees in large firms across the globe (Smedley, 2007: 35).

Employment Relations[2]

Employee Involvement (EI) and Participation (EP)

A number of rationales for using Employee Involvement (EI) teams in EM include the ideas that they can cut waste (as employees are seen to have the most knowledge of the work processes and products involved); can manage such complex work well; and that using them helps build employee pride and commitment in their work. Using EI in the EM domain is not only seen as changing how work processes are performed, but also in terms of improving worker health and safety too. In the U.S. for example, companies like Tennant Company have used EI to develop new dry-abrasive systems for stripping and recoating concrete industrial floors, replacing previous a process

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[2] The British government are 'proposing a climate change bill that, along with local authority regulations, may force employers to implement green measures in the workplace' (Davies and Smith, 2007: 28).

which exposed workers to hazardous solvents and fumes (May and Flannery, 1995: 31-33).

Examples of the outcomes in environmental management that can be gained from using EI programmes can be seen from other firms in the U.S. Since 1975, 3M has encouraged employees to propose changes to generate revenue and reduce pollution through their Pollution Prevention Pays (3P) programme. So far, 3M claim their 3P initiative has produced more than 2,500 pollution solutions, halving their waste release, and saving them nearly $300million. Indeed, later estimates for 3M are that their 3P programme has seen employees propose more than 4,750 projects worldwide, preventing 1.7 billion pounds of pollution, and saving them $850 million in pollution control and raw material costs (Reed, 2002: 387). American Airlines claim their flight attendants recycle over 616,000 pounds of aluminium cans, earning at least $40,000 to them in one year (May and Flannery, 1995: 36), and Dow Chemical's Waste Reduction (WRAP) programme was set up as a contest for all employees to engage with, and from which Dow claim a 173 per cent Return on Investment (ROI) from their first year of operation (Denton, 1999: 108). Other EI team projects in the U.S. have also been seen to produce environmental improvements for Chrysler at the Jeep plant in Toledo, AT&T in Ohio, and the Wheeling-Pittsburgh Steel plant (Hanna, Newman and Johnson, 2000: 148-151).

Other firm policies that support employee eco-initiatives and supervisors who support employee environmental actions have been seen in firm practice in the U.S. and Europe, where at GE Plastics in the Netherlands, Lucent Technologies in Pennsylvania, and Neste Oy in Finland, supportive behaviours from supervisors

towards employees in EM are seen to encourage employees to produce possible solutions to environmental problems (Ramus, 2001: 86-87). Fernandez, Junquera and Ordiz (2003: 641, 644) argue that 'an advanced environmental approach demands a culture based on ecological values', which is made in part by managers leading EI in environmental issues – a mix of manager and worker training, ecological awareness and high levels of motivation to generate enhanced environmental performance. They state that most firms have tended to associate EM with health and safety, (e.g. forming such staffs in the U.S.), and using a particular focussed communications system which allows workers to contribute ideas to tap into advantages associated with worker skills and motivations. Whilst they acknowledge that the track record of senior managers in EI is low, they also argue that there is a need for companies to promote feedback, education, and quality improvement in their communications.

Fernandez, Junquera and Ordiz also argue that eco-initiatives occur from creative ideas from all employees, and that mechanisms need to be made to involve employees in it – which include handing a role for managers in giving employees independence to generate creative solutions to solve problems (which encourages their environmental management concern), and makes best use of applying their skills. They note that the integration of personnel into environmental activity reaches the maintenance domain (in the incorporation of 5S and the ideas of total cleanliness at work), and implies worker involvement in maintenance tasks (e.g. cleaning, greasing, etc) – known as 'productive maintenance' – assigning such tasks to the worker, and not to a group (Fernandez, Junquera and Ordiz, 2003: 647-649). They conclude that an EI approach in EM motivates the worker, allows them to detect problems like leakages in the process of production, and that delegating responsibilities to workers

is based upon team knowledge of the causes of waste and how to reduce them – as seen in EI in waste reduction at Kodak, DuPont, and Procter & Gamble (Fernandez, Junquera and Ordiz, 2003: 647-649). The two key gains from introducing Green EI initiatives are seen to be improvements in environmental and worker health and safety, and the development of more knowledgeable employees and supervisors (Govindarajulu and Daily, 2004: 370).

Comparative studies on EI in EM include the experience of the Multi-National Company (MNC) Cable & Wireless (C&W) in Hong Kong and the U.K., which reveals them reviewing the impact of their group's activities on the environment by undertaking a survey of company staff attitudes to environmental concerns – resulting in their first environment policy, and later the establishment of a worldwide environment forum. To gain support to their EM policy the environment team at C&W began an environmental awareness and training programme to communicate on a global scale, that found employees asking for guidance on key improvement areas, and better information-sharing processes. Results from their programme have seen C&W looking to establish task teams; a network to support their worldwide businesses; and a help-line service for employees in EM (Beatson and Macklin, 1996: 378-382).

Within Europe, the U.K. Confederation of British Industry (CBI) argues that British firms could take steps to build EI in EM, like using existing communication channels; discussing issues within consultative meetings already in place; starting up suggestion schemes; and involving employees in EM in all departments (Oates, 1996: 125-126). In the Netherlands, EI is seen to be the most effective approach to increase EM in

some Green Small and Medium-Sized Enterprises (SME's) in terms of improving environmental awareness and behaviour, as it is seen to increase employee commitment to such issues, helping to maximise their success. Lessons learnt from a Dutch survey of 194 employees in 8 metal businesses are that EI campaigns in EM which put information at the centre and involved co-decision making had the greatest influence to the firm in reducing the costs of waste processing, and on employees in increasing their work environment and safety. The best campaigns are seen to be those that are consistent with the everyday experiences of companies, and which are industry and company-specific (Klinkers and Nelissen, 1996: 213, 221-222).

Ramus and Steger (2000) examined the relationships of environmental policy and direct supervisory support behaviours in promoting employee-led environmental initiatives in a survey of 353 mid and low-level workers in 10 European (and one U.S. and one Canadian) leading-edge firms committed to environmental protection. Their results reveal that factors associated with organisational and supervisory encouragement are seen to be important to employee environmental creativity, but that if supportive management behaviours and/or company communication of a corporate vision of sustainable activity (as signalled by environmental policy) were absent, fewer environmental initiatives from employees were found (Ramus and Steger, 2000: 605-606, 615). A study of EI at 110 Spanish ISO 14001/EMAS registered factories in Europe has revealed EI as one factor among others as having a positive impact (16%) on gaining an environmental action-based competitive advantage in a company. This finding supports existing theory that employees need to be involved in formulating environmental strategy, so that they can create and expand

the knowledge needed to market 'green' products (Brio, Fernandez, and Junquera, 2007: 491, 494, 496).

In terms of company practice in Britain, E.ON have 'low carbon champions' at business unit level who produce ideas to reduce their carbon footprints, and who form a virtual network meeting on a monthly basis to drive action forward (Clarke, 2006: 41), and Land Securities are encouraging employees to think of ideas to reduce carbon emissions and save energy (Felgate, 2006: 40). A recent HSBC initiative in the U.K. found benefits in carbon saving being seen to come from employee initiatives, including one where staff at first direct can bring rubbish in from home and recycle it at work, and the formation of an Environment and Travel Group (Simms, 2007: 39). Argos are aiming to engage their staff through increased environmental awareness, including initiatives in recycling and waste segregation (Phillips, 2007: 9), and first direct are seen to encourage and empower staff to act in more environmentally friendly ways at work and home (Simms, 2007: 36).

However, not all company initiatives in EI regarding EM are positive. For example, one European survey of 353 mid and low-level employees in environmentally proactive firms reveals that less than half of all employees ever propose a solution to an environmental problem, and a lack of managerial support for environmental actions being a key impediment to the generation of employee eco-initiatives (Ramus, 2001: 90). At Accenture in Britain, it appears to some employees that 'it is up to individuals to get involved' in EM, as management support for it is lacking (Joubert, 2007: 18-21), and that such variable employee commitment levels to getting involved in EM issues are similar to those found elsewhere in the U.K. at Rover Group

(Pollack, 1996: 317), and a lack of management commitment to EM found at Kent County Council (Rees, 1996: 367).

In Britain, TUSDAC recommends that U.K. unions negotiate a Sustainable Workplaces Framework Agreement with employers to strengthen workplace employee engagement in sustainable development, as a TUSDAC survey of 310 British union members shows 99% of unionists agree that they would support environmental measures in their workplace, and 81% disagree that there is not much they can do to improve the environment. For TUSDAC, a sustainable workplace is seen to need to train union representatives in sustainable development, as TUSDAC are not persuaded that environmental issues should be "ghettoised" to safety representatives only, and point to unions like the GMB and T&G where the shop steward role includes the issues of health, safety and the environment (TUSDAC, 2005: 8-11, 46). Other British stakeholders like the CIPD see EI tools like staff suggestion schemes as a means of developing ideas and a means of raising interest in the environment (CIPD, 2007a: 4), with the latest CIPD/KPMG survey showing that British workplaces are good at recycling and saving energy, but with more work needing to be done to encourage employees to use more green forms of transport (Phillips, 2007: 9).

The use of Employee Participation (EP) in EM has been noted to help prevent pollution from workplaces (Wehrmeyer, 1996; Wolters, Bouman and Peeters, 1995), and at NUMMI in the U.S., Rothenberg (2003: 1785) argues that EP makes a contribution to improving environmental performance as 'employees possess knowledge and skills that managers lack'. She identifies two 'primary outlets' for

worker participation on environmental projects: a suggestion programme and problem solving circles, and found that workers participate in environmental improvements in two stages: initiation and implementation, where 'project initiation is more likely to stem from specialist staff', whilst 'line level workers are more likely to participate during project implementation' – with the latter more likely to be 'more passive' (Rothenberg, 2003: 1789-1790). Rothenberg suggests that 'managers may need to structure EP programmes for environmental issues differently' than the more traditional sort of 'bottom-up' approach to worker participation programmes, and notes that lean production releases specialist staff for innovation (with empowerment being an important part of the process for line staff, if they possess the ability and time to act) (Rothenberg, 2003: 1798-1799).

Grievance and Discipline

In general terms, grievance and discipline in EM has seen few firms following the lead of the British firm National Westminster Bank in encourage internal 'whistle-blowing' regarding environmental breaches. The need to raise grievances is seen in high risk operations (for their safety record), and it is logical that in such cases disciplinary procedures are attached to environmental rules and duties where non-compliance occurs (Wehrmeyer, 1996: 16-17). Indeed, expert legal opinion is that some firms may eventually move to ensure that environmental obligations are secured by including clauses in staff contracts to do so, i.e. that environmentally unfriendly behaviour may constitute a breach of contract and therefore possible grounds for dismissal (Brockett, 2006: 18).

The Union Role

In the United States, Rothenberg notes that firm practice at NUMMI has seen unions acting as allies to environmental managers, as union communications to workers have generated self-directed environmental initiatives from workers (Rothenberg, 2003: 1789). In Britain, firm practice at Sony has seen them encourage their trade union members in Amicus to be involved in all environmental work programmes, producing financial benefits across the company in terms of reducing glass defects, waste glass, and energy (at Bridgend), which were then rolled-out to all of Sony's U.K. production lines (ACBE/TUSDAC, 2004: 14-15). For British unions, best practice in terms of a union approach to environmental management is seen to originate from the European Union, where German and Belgian unions are promoting domestic energy efficiency programmes, and the possible and significant employment gains in construction, installation, and servicing that may be associated with them (TUSDAC, 2005: 26).

Trade Unions in the U.K. are seen to offer a key role in terms of supporting environmental improvements through their traditional health and safety concerns in the workplace (Wehrmeyer, 1996: 15). Here, union objectives from engagement with EM include those of re-establishing union legitimacy, increasing union membership, extending the union role on issues like investment and training, and enabling work organisations and society to tap into worker capacity to improve EM in general (Oates, 1996: 131). But the general pattern in Britain is one where there is a reluctance by employers to involve unions in what employers consider to be a management area (for example, the CBI is opposed to mandatory environmental auditing and to union involvement in it, arguing that these are management tools for

control and assessment needing best fit solutions tailored to company context) (Oates, 1996: 117, 126).

Early trade union initiatives in EM in Britain saw unions engage in conflicts and later co-operation with green groups (Greenpeace, 1989), with subsequent union campaigns in EM related to health and safety concerns of the relevant union, on hazardous and environmentally-damaging substances (pesticides and asbestos), and a refusal to handle nuclear waste for disposal in the North Sea. Later campaigns by the TUC have called for workers to have environmental rights (to consultation and participation in EM at work), and the right to be involved and informed regarding environmental issues at work, and there have been shifts towards collective green agreements, but there are not many of them established which address workplace environmental issues in structured and comprehensive way (Oates, 1996: 117, 118).

Examples of union-employer co-operation in the U.K. are seen in six public-sector environmental committees, 23 workplaces in the private and public sector engaging in joint management/union environmental auditing, and 12 employers conducting training and education on environmental issues. Examples here include initiatives at West Wiltshire District Council, Dunlop Ltd, and the Institute of Professionals, Managers, and Specialists (IPMS). Workplaces involving green/community groups in the implementation of environmental improvements include SCM Chemicals in Humberside (where the T&G and GMB negotiated improvements in their waste disposal methods), and at Amerlite Diagnostics, where local community groups hold local site liason committees (Oates, 1996: 124-125).

The British TUC has concentrated on involving unions at workplace-level negotiations, and in 1990 made proposals for 'Greening the Workplace' (first published in 1991), which aims to help unions in putting environmental issues on the bargaining agenda, but the lack of access to information and education and training on environmental issues are undermining union involvement. One problem for unions is that whilst the exposure results to harmful substances are self-evident to workers (because of their direct effects on them), results from general environmental pollution are not, meaning that workers may not view pollution external to the workplace as an issue appropriate to them, and may not see environmental issues as one for the bargaining agenda (Oates, 1996: 130, 134).

Jobs and Employment

In the U.K., links between EM, sustainability, jobs, skills, and growth are long established (ECOTEC, 1990, 1993), but national unions in Britain have been caught in the contradictory position of looking to support workers on opposite sides of conflicts regarding environmental protection and job preservation. For example, in 1989 in Wales, dock workers who refused to handle toxic imported waste were represented by the same union as workers at the incineration plant being asked to handle dispose of it, illustrating that job security is a key concern for union members where EM is discussed (Oates, 1996: 131-133).

Potential for power generation and jobs growth in wind generation has been suggested for the U.K., and the Department for Trade and Industry (DTI) see there is a global marketplace for environmental control systems. Indeed, a DTI study has identified

that approximately 10 jobs are produced for each megawatt of renewable power produced (including construction and operation), and as Britain is geographically well placed to construct and operate wind farms, wind technology may produce many jobs in the immediate future (rising from 4,000 jobs in the sector now, and up to 1,000 skilled jobs in the future) (TUSDAC, 2005: 21).

Forecasts are of up to 30,000 new jobs in the British renewables sector before 2015 if the right level of investment is maintained, and other green employment gains may be made from using bio-mass (as it increases the number of farming jobs, and work in the petrochemical industry for converting and mixing processes). Recycling, according to the industry study Future Perfect (2002), is one area where the waste management industry may create between 35,000 and 78,000 new jobs by 2010 (but is dependent on high rates of recycling and composting). More complex recycling and waste management strategies are seen to create more skilled employment than landfill alone, and in addition, regulations on electrical goods manufacturers to collect, re-use or recycle their products are seen to expand local authority recycling, and create more employment opportunities there as a result (TUSDAC, 2005: 21, 32-37). Figures from the DTI have predicted that up to 35,000 people will be working in 'green' jobs in Britain by 2020, especially in the energy industry (an increase from 8,000), in wind and solar power, hydrogen, biofuels, and coal-to-liquid technology, and also from existing mainstream organisations wishing to save energy (Brockett, 2007: 9).

Pay and Reward

Pay and Reward Systems

Work organisations are ideally seen to benefit from establishing a reward system for waste reduction practices that teams develop. For example, in the U.S., DuPont has an Environmental Respect Awards program which recognizes employee environmental achievements, and both Nordstrom and 3M offer rewards for suggestions that individual staff make to help the environment and increase firm profitability (May and Flannery, 1995: 35-36). Reward packages are related to acquiring designated skills and competencies (and not just for performance), as they are seen to be important factors in performance over the long-term, an example being that knowledge of environmental legislation or chemistry may prevent serious accidents or illegal emissions occurring (James, 1996: 44-45). In general, such organisations are seen to need to develop reward systems to produce desirable behaviours in EM, and doing so requires effective employment of both incentives and disincentives (Rees, 1996: 372).

It may be that as per the U.S. experience, negative reinforcements (like suspensions, criticisms and warnings) are needed to get employees to make environmental improvements, e.g. if employees engage in lapses in the handling of hazardous waste. But using such negative reinforcements does not teach staff how to dispose of waste properly, and may result in them failing to disclose environmental problems at source (as employees engage in self-protective behaviours). So, instead, organisations may wish to engage in giving employees positive rewards in terms of verbal feedback from supervisors, as such informal verbal and written feedback which might help motivate

employees towards environmental improvements (Govindarajulu and Daily, 2004: 369).

Performance-Related Pay (PRP)

Monetary-based environmental reward systems have been developed, where for example, an important proportion of monthly managerial bonuses are dependent upon performance outcomes in EM (Milliman and Clair, 1996: 66), and company practice in the U.S., Europe and Britain has examined the Greening of Performance-Related Pay (PRP). In the United States, companies such as Du Pont base their executive compensation and bonus system for middle managers and senior officers in part on environmental stewardship practices, where bonuses can be over 10 per cent if they develop an environmentally benign pesticide for agriculture or a non-polluting product (May and Flannery, 1995: 30; Snyder, 1992). In Europe, companies like Neste Oy in Finland include environmental performance goals as a standard part of their bonus system, and line managers have licence to allocate rewards to motivate employees at Neste Oy in Sweden (Ramus, 2001: 101). In Britain, at ICI 'environmental targets would form part of senior managers' PRP assessment' (Snape, Redman and Bamber, 1994: 134).

While some firms have started to include EM issues into their PRP systems, as an extra performance criterion or as a baseline standard to be met to qualify for PRP (Wehrmeyer, 1996: 19), Fernandez, Junquera and Ordiz (2003: 647) note that assessing results that employees produce in environmental activities is a difficult task (as quantitative measures may distort outcomes). They argue that it is important to

consider the successful linking of contingent remuneration for senior managers and the higher performance produced in environmental management, and the successful use of public recognition systems that include financial compensation for employees.

Recognition and Awards

Recognition-based rewards exist for managers in U.S. companies such as Monsanto, Dow Chemical, and ICI Americas Inc, but one reason for a slow spread of such reward systems to all employees is that most firms have relatively new environmental appraisal systems (Milliman and Clair, 1996: 65). Other recognition-based rewards in the U.S. and U.K. include senior managers at Coors presenting awards in public meetings, and via news articles at Duke Power. Recognition-based rewards in EM are offered at different levels within companies, for example by CEO's annually for individual, team, and divisional contributions to waste reduction at EG&G Inc., company-wide team excellence awards at Xerox, and in non-traditional forms like the Body Shop (U.K.) paying their employees for performing community service, and giving them opportunities to attend green events and rallies (Milliman and Clair, 1996: 66).

Indeed, some U.S. companies like Federal Express are offering employees sabbaticals (which enable them to take up to 3 months paid leave every five years to work on jointly-agreed projects with the firm). Issues here are what new rewards need to be developed to motivate younger people, and how rewards like promotion can be linked to the environmental performance of employees (Milliman and Clair, 1996: 67-68, Wall Street Journal, 1995). Other innovative non-monetary rewards that are being

used by U.S. firms include paid vacations, time off, favoured parking, and gift certificates – with them all seen to encourage employees on environmental performance (Govindarajulu and Daily, 2004: 368), whereas in Europe, the use of environmental rewards and recognition (like daily praise and company awards) are seen to have a significant impact on employee willingness to generate eco-initiatives (Ramus, 2001: 93).

In Britain, BskyB allows employees to build up points for positive behaviours regarding emissions reduction on a "carbon credit card" to earn extra benefits (Brockett, 2006: 19), and Sky has put in place a £1,300 cash incentive for staff to purchase a hybrid car (Davies and Smith, 2007: 30). At first direct, HR are looking to establish an annual awards dinner to recognise exemplary behaviour regarding on environmental values (Simms, 2007: 39), the latest CIPD/KPMG survey has found 8% U.K. firm respondents rewarding green behaviours with awards and recognition as well as financial incentives (Phillips, 2007: 9), and Shell view highly those with knowledge and experience in the biofuels area (Brockett, 2007: 9).

There are many ways in which incentives can be provided in an environmentally-friendly way. For example, car mileage for company cars can be extended to bicycle journeys and loans, staff can be offered financial substitutes for car allowances, car pooling/sharing provisions can be encouraged, and company cars can be limited to journeys beyond public transport only (Wehrmeyer, 1996: 16). Organisations can also place financial incentives into their reward strategies, as tax incentives and exemptions promote loaning bicycles and safety equipment to employees, and a less polluting car fleet too (Davies and Smith, 2007: 29).

Exit

In terms of staff exits, where dismissal occurs, it may be that any 'general debriefing should include an environmental dimension, and if staff resign, then HR managers need to discover why' (Wehrmeyer, 1996: 15), or that whistle-blowing green employees (who highlight bad practices), are seen as at risk, as there is no legal protection for them, meaning that they could be dismissed for breach of confidentiality (Oates, 1996: 136). We now discuss some wider implications arising from our review, and detail a process model and research agenda in Green HRM.

<u>Discussion</u>

In general terms, it is seen that the personal values that employees demonstrate to EM have not been exploited fully towards achieving corporate environmental initiatives, even though they look to have positive effects for managers, and as such, the personnel function appears under-rated and has been seen to need to interact with EM matters (Wehrmeyer, 1996: 11-12). Many organisations appear to use an integrated approach to implement EM programmes (Milliman and Clair, 1996: 50), and achieving the integration of such HR and EM seem problematic, not just in terms of changing unsustainable practices that all levels of staff may have learned over decades (Barrett and Murphy, 1996: 90), but also in particular in changing the approach of some HR staff themselves to green issues (Crabb, 1990).

In the U.K., some (but by no means many) professionally qualified staff in HRM question the need to participate in EM, the existence of global warming, and the need for a debate on Green issues per se. Some of these managers feel green issues are 'not proved', as 'there is a lot of hype' about them, and argue that good employers who are environmentally aware may be a form of green 'extremism'. In addition, some of them state that HR should avoid 'jumping on political bandwagons that do not support the profitability of our organisations' (such as EM), as doing this will do the British HR profession 'no good at all', when HR is 'striving to be taken seriously by business' (in CIPD, 2007b: 3-4).
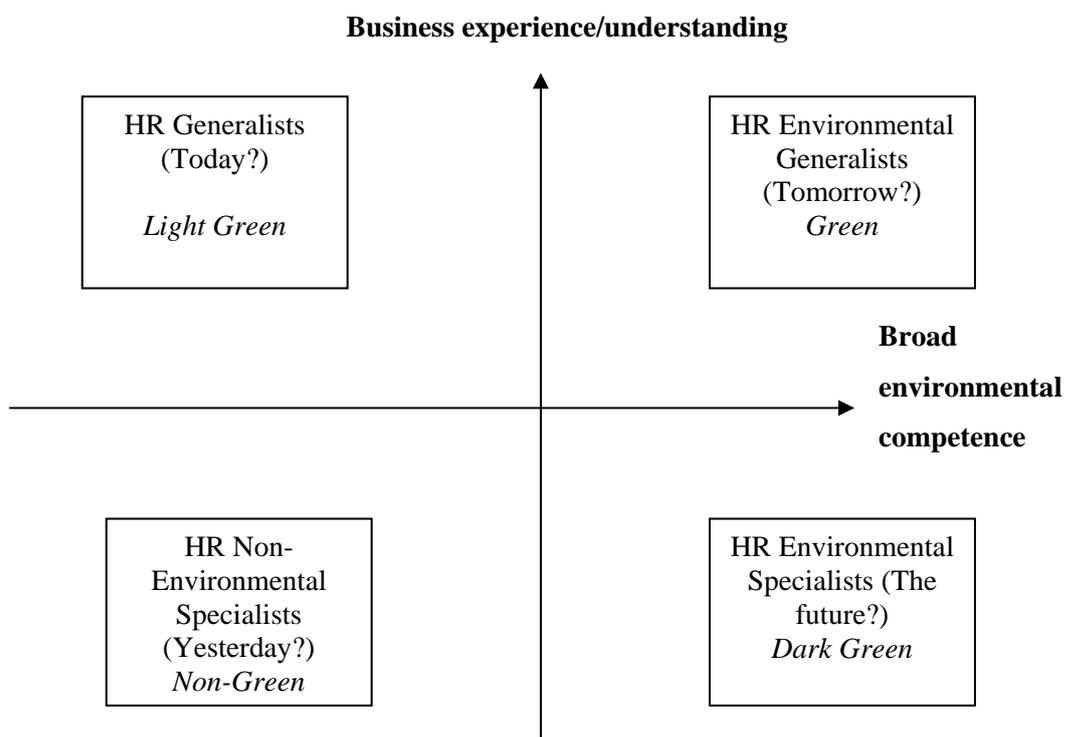
HR's professional identity appears as one close to management and 'an ally to the present economic system that is destroying the environment itself' (Hart, 1996: 195). Additionally, there may be a need to monitor management styles being used in EM

(Wehrmeyer, 1993), and to engage line managers in EM too (as they show a tendency not to care about EM itself, and/or if employees engage in such activities), and as line support for EM initiatives is seen as crucial in generating employee environmental problem-solving (Ramus, 2001; 85, 90, 102). However, in contrast to some of the opinions from HR staff (just detailed) above, the literature also details the role HR staff may play in EM, which we now detail.

The HR Role

There may be differences in opinion in terms of the views of HR managers, and their approach to EM concerns. These can be classified into a number of different roles that HR managers may take-up in EM, each revealing their own possible origins and future directions – which are detailed in Figure 1 below:

Figure 1: Shades of Green – A typology of HR environmental executives

Business experience/understanding

HR Generalists (Today?) *Light Green*	HR Environmental Generalists (Tomorrow?) *Green*

Broad environmental competence

HR Non-Environmental Specialists (Yesterday?) *Non-Green*	HR Environmental Specialists (The future?) *Dark Green*

(Adapted from James and Stewart, 1996: 145).

A key role for HR environmental executives is to guide line managers in terms of gaining full staff co-operation towards implementing environmental policies (Wehrmeyer and Parker, 1996: 163), which means HR need to 'seek out allies, nurture supporters and create networks of problem-solvers willing to act to change the status quo' (Hart, 1996: 187). HR can link HRM and EM together in an integrated way, as seen in the case by Rothenberg (2003) of NUMMI in the U.S. There, HR foci like knowledge management, EI, EP, employment screening, training, redundancy, reducing status differentials, and management style have been integrated together to produce environmental improvements for the firm.

Rothenberg states the importance of participation programmes at NUMMI as an 'outlet for externalising contextual knowledge', to allow employees to make connections between the tacit and explicit knowledge they have, and points to their environmental suggestion drive as an example which is successful because of high levels of feedback and implementation in it, as workers see it as an important way for them to give their 'voice' (Rothenberg, 2003: 1795). Rothenberg notes the role of NUMMI's culture in creating an environment of support for participation and collaboration, and links this to their prior history, which also perhaps indicates a role for HR in EM in terms of employee screening for co-operative people, socialisation via intensive training to remove adversarial mind-sets, and a no layoff policy and reduction in status differentials to generate trust (Rothenberg, 2003; 1797).

Many HR staff and work organisations are recognising the HR factors involved in environmental management (Daily and Huang, 2001), and are embracing the EM aspects of HRM. For example, Cable and Wireless show how they are attempting to

achieve changes in EM through implementing their environment programme

worldwide (including their group safety function), (Beatson and Macklin, 1996:378-

379), and in Britain E.ON optimises desk space by encouraging staff to work from

home (if feasible), and in changing business travel through introducing online "live

meetings" (to save travel between offices), and by running a car-sharing scheme

(Clarke, 2006: 42).

The HR department at the U.K. arm of Sky has overseen a campaign to turn off PCs,

TVs and lights when leaving, to use 100 per cent renewable energy, and introducing

solar lighting (Davies and Smith, 2007: 30), while other British organisations, HR at

first direct highlight their travel policy which promotes car sharing and the increasing

use of public transport (Simms, 2007: 36), and Boots have reduced car journeys by 20

per cent via their green transport plan, and established an intranet scheme for car-

pooling (Davies and Smith, 2007: 30). In addition, HR systems such as e-HR are seen

to be able to help management and employees track their own carbon emissions

(Beechinor, 2007: 46).

The British CIPD see an impact on the U.K. HR profession from challenges posed by

environmental concerns in terms of organisations becoming energy-efficient (Phillips,

2006: 1), and whilst their survey reveals only 23 % of HR professionals seeing

themselves as having ownership of environmental issues, 46% believe HR should take

a facilitating role towards them, and 23% a role in assisting others on them also

(Brockett, 2006: 18). Such findings support the idea that HR are well-placed to co-

ordinate or lead on introducing Greener policies because of their experience in

communications and cultural change, as many ideas in EM may come from

employees, stimulated by the framework HR establish (CIPD, 2007a: 4). HR can

develop an environmental report, and include a policy statement, targets, progress measures, an overall impact assessment, and a policy framework for binding together transport, flexible working, energy efficiency and recycling (CIPD, 2007a: 3-4; Davies and Smith, 2007: 29). Indeed, the use of such environmental reports may encourage line managers and employees to take pride in EM in the firm (Ramus, 2001: 101).

Understanding the work attitudes, personal motivation towards the job/organisation, and relationships with colleagues are factors that are seen to underpin successful EM (Wehrmeyer, 1996: 15). Within Europe, one successful example of such integration is that of Neste Oy in Finland, who have built a business case for sustainable development which has made it easier for line managers to include EM into their management of employees (Ramus, 2001: 100), while survey work in Britain has revealed that the two most important factors determining motivation towards EM are gender (with women more motivated) and professional values. Here, pay is rejected as a work factor, illustrating the importance of intrinsic motivation and vocational call as employee motivators to EM, followed by ethical concern, and family and religious values (Wehrmeyer and Rees, 1996: 99, 107).

Fernandez, Junquera and Ordiz (2003: 647) argue that employee motivation is an incentive that firms have to introduce an advanced approach to EM, and that the emphasis is on designing HRM policies that tend to promote worker co-operation and their involvement with the firm's environmental objectives. They quote the work of Ramus (2001) on extrinsic factors that centre on environmental policies, and intrinsic factors that centre on the 'skills and values' that employees bring to the firm[i].

However, firms need to offer employees the motivating device of immunity and

protection when environmental problems are reported (Brio, Fernandez, and Junquera,

2007: 511). We now propose a process model and research agenda in Green HRM.

A process model and research agenda in Green HRM

In our view, whilst we acknowledge that significant barriers may act to limit the development of a Green HRM approach (as detailed throughout this review), we also see that what is crucially lacking in all of the studies reviewed above is an over-arching Green HR process model, which spans and integrates the entry-to-exit points in HRM, which can enable policy in Green HRM to be translated into practice. Drawing on the studies examined in our literature review above[ii], we summarise the entry-to-exit HR processes involved in Green HRM in Figure 2 (below). In addition to the possible roles for HR staff and unions detailed earlier, we see scope for work organisations and their participants to engage in the following activities in Green HRM at the workplace level derived from the literature (above) – which we now detail in Figure 2:

Figure 2: Summary of HR processes involved in Green HRM

RECRUITMENT	PERFORMANCE MANAGEMENT & APPRAISAL	TRAINING & DEVELOPMENT	EMPLOYMENT RELATIONS	PAY & REWARD	EXIT
- Green job descriptions for employees (and green goals included into managerial job descriptions) - Graduate perceptions of Green practises (applicants use green criteria) - Green job candidates - Recruitment of employees who are 'Green aware' becomes part of the interview schedule - Green employer branding (green employer of choice) - Green aspects introduced to the induction process (familiarisation) - Becoming a green employer may produce other HR benefits, like increased staff motivation and/or engagement, reductions in labour turnover, and increasing workforce health	- Green performance indicators into performance management system, and appraisals (PMA) - Communication of Green schemes to all levels of staff through PMA scheme, establishing firm-wide dialogue on green matters - Managers are set green targets, goals and responsibilities - Roles of managers in achieving Green outcomes included in appraisals - Writing & integrating green criteria in appraisals - Appraisals assess number of green incidents, use of environment responsibly, & successful communication of environmental policy - Penalties for non-compliance on targets in environmental management (EM)	- Introduce training on EM, & processes/material use - EM training needs analysis - Integrating training on instruction and generation of eco-values - Development of employee skills, and competence building in EM - Socialisation in Green values/management - Use of Green teams in EM - Train staff to produce green analysis of workspace - Job rotation to train green managers of the future - Integrating training to increase staff knowledge - Training in EM aspects of safety, energy efficiency, waste management, and recycling - Safety representatives to give data on green courses - Establish development of Green personal skills - Re-training of staff losing jobs in relevant polluter industries	- Employee involvement & participation (EI&P) in Green suggestion schemes, & problem-solving circles - Staff independence to form & experiment with green ideas - Integrate staff EI&P into maintenance (cleaning) - Employee help-line for guidance in green matters - Tailor Green EI scheme to industry/company standards - Increase line/supervisory support behaviours in EM - Unions negotiating Green workplace agreements - Training of union representatives in EM - Green elements into the health and safety process - Encouraging employees to use green forms of transport - Set-up low carbon chiefs (including CEO and Board) to increase action in EM - Introduce green whistle-blowing help-lines - Discipline and/or dismissal for EM breaches	- Green pay/reward system - Tailor packages to reward green skills acquisition - Use of monetary-based EM rewards (bonuses, cash, premiums) - Use of non-monetary based EM rewards (sabbaticals, leave, gifts) - Use of recognition-based EM rewards (awards, dinners, publicity, external roles, daily praise) - Develop negative reinforcements in EM (criticism, warnings, suspensions for lapses) - Develop positive rewards in EM (feedback) - Establish PRP for all to gain green stewardship / citizenship (esp. seniors) - Link suggestion scheme to rewards system - Link participation in Green initiatives to promotion/career gains (managers advance through supporting staff in EM) - Use green tax breaks - Line have rewards to motivate employees in EM	- Staff de-briefings in EM in cases of dismissal - Managers to ask if Green issues are reasons for resignations (moving to a more Green employer?) - Role of exit interviews to gauge perceptions of firm Green-ness - Whistle-blower accounts on state of firm Green-ness - Legal protection for green whistle-blowers

In terms of a research agenda in Green HRM, research work could include interviewing participants in Green HRM to ascertain the details of HR initiatives in EM, and their opinions regarding their motivations, commitment, and feelings towards them as initiatives, and their willingness to be involved in them. Additionally, survey work in this field may usefully examine Green HRM by conceptualising it as a type of extra-role behaviour, i.e. parallels could be made with the Organisational Citizenship Behaviour (OCB) literature, and investigation could take place in terms of what predicts Green HRM behaviours. Here, predictors like leadership issues, commitment profiles, organisation climate, and/or individual disposition could be assessed to see which of them act as drivers regarding staff adoption of Green HR behaviours at work. Both interview and survey work may proceed best in work organisations that are highly Green, so that practices in Green HRM can be clearly seen and evaluated at interview (as they are extensive and embedded), and as such organisations may have a population with a high level of variance in it, meaning that survey work completed there could reveal the existence of the sorts of predictors of Green HR behaviours just described. We now detail some conclusions to this article.

<u>Conclusions</u>

This paper has reviewed the literature on environmental management (EM) and HRM, and offered a process model and research agenda forward in Green HRM. In conclusion, future research into Green HRM may provide interesting results for all stakeholders in HRM. For employers and practitioners, these may be to establish the usefulness of linking employee involvement and participation in environmental management programmes to improved organisational environmental performance, perhaps via a specific focus on waste management and recycling; for unions and employees, they may help them lobby employers to adopt Green HRM policies and practices that help safeguard and enhance worker health and well-being; and for academics, they may reveal additional data to add an HRM element to the knowledge base on Green Management in general.

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Acknowledgements

Notes

[i] E.g. 'an employee may have intrinsic motivation (like placing great personal value on a pristine environment), which pushes him or her to take actions to protect the natural environment (Ramus, 2001)' (Fernandez, Junquera and Ordiz, 2003: 647).

[ii] Studies that Figure 2 draws upon include the following in turn: <u>*Recruitment*</u> – Wehrmeyer (1996), CIPD (2007a); Wehrmeyer (1996), Oates (1996); Clarke (2006); Wehrmeyer (1996); CIPD (2007a), <u>*Performance Management and Appraisal*</u> – Milliman and Clair (1996); Wehrmeyer (1996), Ramus (2001), Ramus and Steger (2000); Wehrmeyer (1996), Ramus (2001); Rees (1996); Wehrmeyer (1996), <u>*Training*</u> – North and Diag (1996); Milliman and Clair (1996); Fernandez, Junquera and Ordiz (2003), Fernandez and Junquera (2007), Ramus (2001); Ramus and Steger (2000); Rees (1996); May and Flannery (1995); Wehrmeyer (1996); North and Diag (1996), Fernandez, Junquera and Ordiz (2003); Phillips (2006), May and Flannery (1995), North and Diag (1996); Madsden and Ulhoi (2001); Smedly (2007); Oates (1996), <u>*Employment Relations*</u> – Oates (1996), CIPD (2007a), Rothenberg (2003); Fernandez, Junquera and Ordiz, (2003); Ramus (2001), Ramus and Steger (2000); Fernandez, Junquera and Ordiz, (2003); Beatson and Macklin (1996); Klinkers and Nelissen (1996); Ramus and Steger (2000), Ramus (2001); TUSDAC (2005); Oates (1996); Phillips (2007); Clarke (2006), Ramus (2001); Wehrmeyer (1996); Brockett (2006), <u>*Pay and Reward*</u> – May and Flannery (1995); James (1996); Milliman and Clair (1996), Davies and Smith (2007), Brockett (2007); Ramus (2001), Ramus and Steger (2000); Govindarajulu and Daily (2004), Brockett (2006); Milliman and Clair (1996), Simms (2007), Ramus (2001); Govindarajulu and Daily (2004); Govindarajulu and Daily (2004); May and Flannery (1995), Snape, Redman and Bamber (1994); Pollack (1996); Ramus (2001); Wehrmeyer (1996), Davies and Smith (2007), Simms (2007); Ramus (2001), <u>*Exit*</u> – Wehrmeyer (1996); Wehrmeyer (1996); Oates (1996).