To successfully tackle the challenge of achieving environmental sustainability, employers must improve their understanding of how people feel and think about their environmental responsibilities. To date, few human resource (HR) scholars or practitioners are focused on this important issue (Huffman, Watrous-Rodriguez, Henning, & Berry, 2009; Jackson & Seo, 2010; Renwick, Redman, & Maguire, 2008).

Addressing the immediate needs of organizations requires research that provides insights about how to effectively use specific human resource management (HRM) and human resource development (HRD) practices—staffing, training, individual and organizational development, performance measurement and feedback, rewards and recognition, and change management—to implement environmental sustainability. In this chapter, the term workforce management is used to refer to the full array of available HRM and HRD tools. Mounting pressure to advance our understanding of environmental sustainability creates new opportunities for problem-focused workforce management research.
that yields new insights and knowledge for managers to apply as they strive toward improved environmental sustainability.

**A Strategic Perspective as the Starting Point**

To maximize the practical usefulness of future research, HR scholars may find it useful to adopt a strategic perspective as a means for attracting the support of managers (for a recent overview of this large body of work, see Jackson, Schuler, Lepak, & Tarique, 2012). Two noteworthy assumptions of the strategic HR perspective are

1. Effective workforce management practices are aligned with the business strategy and organization context.
2. Effective workforce management practices are aligned to form a coherent and internally consistent system.

**Aligning Environmental Initiatives with Business Strategy and Organizational Context**

In the past, the strategic perspective has emphasized the importance of monetary costs and monetary returns, thereby elevating the interests of shareholders and other owners when evaluating the effectiveness of workplace management practices. Going forward, the traditional focus on financial performance measures is likely to broaden as firms recognize that long-term survival depends on the ability to successfully address a variety of environmental threats and leverage new opportunities for growing their businesses. Increasingly, environmental performance metrics are gaining legitimacy among investors, corporate boards, regulators, and consumers as bottom-line indicators of organizational performance.

The array of ecological performance metrics used by organizations includes those used to address government regulations and ensure compliance with industry standards, those assessed by third parties for verification and public reporting, and those most closely watched by consumers and the general public. In addition, as described by Ones and Dilchert (Chapter 5, this volume), rapid advances are being made in the development of
behavioral measures to assess the environmental performance of individuals. The availability of these metrics, which address multiple levels of analysis, provide a foundation for building the behavioral cause-and-effect models needed to guide the design of HR systems that are tailored to environmental goals.

The environmental practices that are most effective in a particular firm may depend on the firm’s particular reasons and strategic plan for achieving environmental sustainability (Ambec & Lanoie, Chapter 2, this volume). Successful strategy implementation requires an understanding of the role requirements of HR professionals (Staffelbach, Brugger & Bäbler, Chapter 3, this volume) and the appropriate use of workplace practices that address the firm’s strategic imperatives. Successful organizational change also involves recognizing and taking into account an organization’s current state. For firms that are in the early stages of pursuing environmental sustainability, employee training and reliance on volunteer environmental champions may be sufficient for attaining the organization’s initial environmental goals. Subsequently, however, changes in performance management practices and leadership competencies may be needed for continued advancement toward environmental sustainability goals (see Haddock-Millar, Müller-Camin, & Miles, Chapter 16, this volume; Muros, Impelman, & Hollweg, Chapter 18, this volume).

In order to conduct rigorous evaluations of the effectiveness of various HRM and HRD practices, new frameworks are needed for describing and measuring the social and psychological conditions such practices seek to alter. In addition to specific individual green work behaviors, examples of other measures that would be useful include: metrics for assessing the leadership competencies needed to create improvements in environmental performance, the metric for assessing the environmental knowledge and attitudes of employees, and new approaches for gauging employee engagement and commitment to environmental initiatives.

Internal Alignment Among Workforce Management Practices

The effectiveness of specific workplace practices depends partly on how well they are aligned with other elements of the total workforce management system, including activities typically
labeled HRM and HRD. All HRM and HRD practices need to work in tandem; they should reinforce and complement each other. As an organization’s environmental goals and aspirations evolve, components of HRM and HRD need to evolve and change also. Designing and maintaining an internally coherent workplace management system that supports the organization’s aspirations and goals is the primary responsibility of senior human resource professionals.

A Problem-Focused Agenda for Research on Workforce Management and Environmental Sustainability

HR scholars may recognize the need for internally consistent workforce management practices, but often they focus their research efforts on just one or two elements of the total system. Following the logic of “basic science,” they search for fundamental principles that apply across contexts. But this approach seldom produces clear answers to the questions that practicing managers must answer in order to solve specific problems.

Problem-focused research that specifically aims to improve the environmental sustainability of organizations may be more useful for producing applicable knowledge. A problem-focused approach shifts the goal of research from finding universal principles to identifying approaches that are useful for achieving specific outcomes—such as reducing the organization’s environmental footprint through greater recycling, reduced energy use, technical innovations, and so forth.

The practical challenge of aligning elements of the workforce management system might be less daunting if scholars conducted research that was specifically aimed at providing solutions to organizations striving to environment sustainability. In order for such a problem-solving approach to gain traction, however, may require a shift in the criteria scholars use to evaluate the quality of research, putting less emphasis on theory testing as the primary goal and increasing the value assigned to research that generates clear recommendations for effective practice.

What questions might future research address in an effort to help organizations achieve environmental sustainability? Let’s consider some possibilities.
Focus on Implementation Issues

Currently, HR scholarship emphasizes content and design issues, while mostly ignoring the question of implementation. The dominant paradigm assumes that best practices that are useful in a wide range of settings can be identified and, when such practices are identified, they will be adopted by practitioners. But we have ample evidence that this assumption is not valid (for example, Rynes, Giluk & Brown, 2007). Furthermore, for various reasons, HR practitioners seldom start with a blank slate and then design a “scientifically valid” and complete HR system that they can simply impose on the workforce. Instead, HR practitioners strive to understand the objectives of line managers, negotiate solutions that optimize results against multiple and sometimes conflicting goals, introduce changes while at the same time sustaining a sense of continuity, respond to signals that suggest current conditions are changing, and remain flexible enough to adjust to an unknown future.

A problem-focused approach to conducting research on workforce management and environmental sustainability would recognize that the focal question to address is: How can we use HRM and HRD activities to help our organization implement its environmental strategy? That is, how can we align the workforce management system—including both formal policies and the day-to-day practices of managers—to support progress toward improved environmental performance?

Achieving Alignment

Even firms that publicly declare their commitment to environmental sustainability vary greatly in the degree to which HRM and HRD practices are aligned with environmental management activities. Sometimes job analysis and design, competency modeling, selection, performance evaluation, training, and compensation appear to be unaffected by stated environmental management goals. In other firms, the influence of environmental imperatives can be seen across all aspects of the management system.

Managers’ beliefs about which aspects of a workforce management system are most relevant for achieving environmental
goals may partly explain the current gaps between stated environmental goals and management practices. An analysis of qualitative data from four Brazilian firms suggests that some practices (performance evaluation, rewards, and public recognition) were perceived as more important for achieving environmental sustainability (Jabbour, Santosa, & Naganoa, 2010). If such beliefs are widespread, it could explain why practices such as recruitment, socialization, on-boarding, training, and leadership development are not often modified to align them with changes in an organization’s stance toward environmental sustainability. Which HRM and HRD practices are actually the most important, and/or the conditions in which they are the most important, is unknown.

The need for a more complete understanding of how to align an entire system of workforce management practices suggests several new research opportunities. Among the questions that such work might address are these:

• How can firms assess the extent to which alignment exists?
• What are some of the early warning signs that indicate the workforce management system is not well aligned?
• Are some evolutionary paths to alignment more effective than others? For example, is alignment of the workforce management system and environmental strategy best achieved by focusing first on performance evaluation and rewards? Or is the effectiveness of performance evaluation and rewards enhanced when the workforce is first prepared for these through extensive socialization and training?
• How can firms improve and speed up the process of aligning the workforce management system with other relevant systems involved in achieving environmental sustainability? Is it more effective to begin with voluntary efforts to create employee engagement? Do top executives really need to be onboard first, or can they be inspired by successful environmental performance results that are initiated and achieved through voluntary efforts at lower levels?
• Where in the organization (which functions, at what levels) are managers most likely to readily understand the value of aligning HRM and HRD practices with environmental goals
and become willing partners in change efforts? How can managers who are most likely to be willing and supportive partners be identified?

- What are the most common obstacles to achieving alignment between environmental strategies and workforce management practices? Do different environmental goals (for example, reducing carbon emissions versus eliminating waste) present different obstacles? How can those obstacles be managed?

**Engaging Multiple Stakeholders**

A salient feature of past strategic HR scholarship has been the priority given to investors as the stakeholders of primary concern. By focusing so much effort on demonstrating the economic value of HR systems, strategic HR scholarship has drawn substantial criticism from scholars who assert the value of addressing the interests of a wider set of stakeholders.

By attending to the concerns of multiple stakeholder groups, research at the intersection of HR and environmental sustainability offers an opportunity to reform and improve HR scholarship and practice. Generally, HR scholars and practitioners alike recognize the value of attending to the differing perspectives and knowledge bases that characterize subgroups of employees. Many members of the HR profession—especially research scholars—reflexively seek answers to questions that focus on differences among employees based on age, gender, education levels, and so forth (see Klein, D’Mello, & Wiernik, Chapter 6, this volume). Less automatic is fully considering the implications for HRM and HRD of the differing perspectives of stakeholders other than employees.

Numerous cases in this volume illustrate that efforts to achieve environmental sustainability often target changes in the attitudes and behaviors of employees and customers and the community and investors and the media. As Caribou Coffee learned, environmentally friendly product sourcing and marketing efforts may be ineffective if they occur in isolation from simultaneous efforts to align the environmental behaviors, attitudes, and knowledge of
employees (see Muros, Impelman, & Hollweg, Chapter 18, this volume).

When environmental sustainability is the objective, alliance partners upstream (suppliers of raw materials, product manufacturers) and downstream (distributors, consumers) in the value chain are very important stakeholders, also: An organization’s effort to reduce its environmental footprint can succeed only if environmentally friendly practices are used throughout all stages of the lifecycle of its products and services. In addition, alliance partners may collaborate in their efforts to influence government and industry regulations, develop new industry standards for the environmental performance of new products, and shape educational and community practices. Thus, workforce management practices might appropriately target the employees of these strategic partners.

Daimler AG’s approach to environmental sustainability reflects keen awareness of the value of stakeholder inclusiveness (see Deller, Schneiders, & Titzrath, Chapter 13, this volume). Indeed, their annual Sustainability Dialogue event specifically targets representatives of numerous stakeholder groups to obtain their input for use in establishing the company’s goals and seek their collaboration in finding solutions that will help them achieve their environmental goals. Daimler’s ten-year (2010 to 2020) sustainability plan reflects their stakeholders’ preference for giving more emphasis to environmental sustainability issues (versus other social and governance issues that fall under the broader umbrella of sustainability. Daimler’s Materiality Matrix is a systematic and practical tool for mapping the importance of various stakeholder concerns and evaluating how addressing those concerns fits with the firm’s perception of strategically important issues.

Many HRM and HRD professionals understand that relationships with an array of stakeholders influence and can be influenced by the organization’s HR system. Yet most of these other stakeholders are ignored when assessing the effectiveness of workforce management practices. As firms experience increased pressures for transparency around environmental practices, their HRM practices are exposed to greater scrutiny by all stakeholders. For example, approximately 20 percent of the content of the
Global Reporting Initiative addresses issues that fall within the domains of HRM and HRD. Thus, research that addresses the following questions would be of considerable practical use:

- How do various stakeholders evaluate whether stated environmental goals and aspirations are reflected in an organization’s workforce management practices?
- What procedures and practices can organizations use to facilitate alignment between elements of the workforce management system and other activities that are visible to multiple stakeholders (marketing efforts, accounting practices, facilities management)?
- When audits of alliance partners yield negative results or indicate the need for change, what are some effective techniques for promoting change across an entire network of alliance partners?
- What are the consequences for the environmental attitudes and behaviors of employees, customers, and investors of perceived inconsistencies between the workplace management practices of alliance partners and the firm’s own stated environmental goals and achievements?

Environmental Sustainability in the Global Context

As globalization progressed over time, it challenged firms around the world to develop management systems that are effective across locations with dissimilar laws, cultures, politics, economic conditions, and so on. Progress toward environmental sustainability requires understanding how such differences, which shift over time, influence environmental attitudes and behaviors.

Despite wide variation in the institutional environments that influence HR systems (for example, Florkowski, 2006), HR systems around the world are converging and becoming more alike (Brewster, Mayrhofer, & Morley, 2004). As firms become more engaged in pursuing environmental sustainability goals, the pace of such convergence may quicken. McDonald’s UK learned how to effectively change the behaviors of its UK employees and is now attempting to diffuse some of the practices that were effective in the UK to stores in other countries (Haddock-Millar,
Muller-Camen, & Miles, Chapter 16, this volume). Procter & Gamble (P&G) conducts surveys that assess the green attitudes and behaviors of employees spread across eighty countries (Biga, Dilchert, McCance, Gibby, & Oudersluys, Chapter 17, this volume). As P&G initiatives undertake to begin changing these attitudes and behaviors, the company will face the challenge of anticipating how employees in different countries are likely to respond to specific HRM and HRD practices.

The Rapid Results Institute’s (RRI) experience using their standard approach to creating organizational change suggests that principles such as coaching, employee involvement, setting measurable goals to be achieved within a short time frame, delegating responsibility for solutions to small teams, and ensuring rapid success against the goals can be effective across a wide range of cultures (Manitsky & Murphy, Chapter 15, this volume). Nevertheless, it is likely that RRI’s success is partly due to the deep tacit cultural knowledge that their coaches bring to this work. Is it possible to identify the specific cultural knowledge needed in order to succeed in adapting a seemingly “standard” intervention to differing cultural contexts? Many large multinational companies are facing such a challenge, creating the need for new research that provides answers to questions such as:

- How do the environmental attitudes and behaviors of workers differ around the world? Where is convergence in environmental attitudes and behaviors most (least) evident?
- Which aspects of the institutional context (laws, culture, economy, etc.) are most strongly associated with the environmental attitudes and behaviors at work? And what are the implications of such differences for human resource management for firms with operations, markets, and alliance partners distributed around the world?
- How do international differences influence the way employees (and other stakeholders) react to specific HRM and HRD efforts aimed at environmental sustainability?
- If company-wide convergence of attitudes and behaviors is desired, what processes might be used by employers striving to achieve it?
Organizational Learning

As organizations embark on the journey to environmental sustainability, their change efforts reflect their current change management capabilities. Over time and with experience, some organizations have developed a greater capacity for change. Research that sheds light on how organizations develop and maintain their change management capabilities could help organizations evolve toward environmental sustainability more quickly, for long-lasting results.

It seems likely that past experiences in creating organizational change—whether successful or unsuccessful—can help an organization prepare for future change efforts. For example, prior efforts to implement total quality management or customer service initiatives may have prepared some organizations for current change initiatives aimed at environmental sustainability. Organizations that emerged successful in the face of increased pressures for better quality products and customer service may have developed a cadre of leaders with the competencies need to effect change in response to recent environmental pressures (see Van Velsor & Quinn, Chapter 10, this volume). And earlier experiences may have taught change agents the value of practices such as rigorously analyzing specific attitudes and behaviors that are relevant to implementing environmental initiatives, establishing specific goals, conducting small-scale pilot projects, and using simple metrics to monitor and evaluate progress. As described in Chapter 16, McDonald’s UK environmental sustainability success now is partly due to the company’s long history of implementing organizational change in response to changing external conditions. Caribou Coffee (that is, front-line employees and managers), by contrast, has less experience with driving change through HRM initiatives, so it is likely to encounter more and different obstacles and move more slowly toward success.

The 2010 SHRM survey assessing sustainability efforts revealed wide variation in how firms are addressing environmental issues (see Schmit, Fegley, Esen, Schramm, & Tomasetti, Chapter 4, this volume). It clearly shows that some practices are more widespread than others. Differences in approaches include fundamental decisions about who takes responsibility for the strategy, methods used
to engage employees, and specific activities like collecting donations to aid victims of environmental disasters, monitoring the company’s environmental impact, and promoting the use of low-carbon transportation. What is not yet understood, however, is whether some of these practices are more (less) effective at different stages of an organization’s sustainability journey.

Organizational change efforts—including those associated with addressing environmental issues—often employ education and training programs to communicate organizational values, inform employees about the changes being introduced by the organization (for example, changes in performance evaluation criteria), and improve employee competencies that are believed to be relevant to the upcoming changes (see National Environmental Education Foundation, 2009). How effective are such efforts in creating a cultural change that supports environmental sustainability? Research on training programs designed to change employees’ attitudes has found that such programs seldom succeed in creating organizational change (see Kulik & Robertson, 2008, who studied diversity training programs). Others have concluded that it is more effective to hold managers accountable for meeting measurable goals (Kalev, Dobbins, & Kelly, 2006).

Alternatively, training programs may be most effective during the early phases of pursuing environmental sustainability, and then become less important after a solid base of knowledge has been built up—perhaps across an entire industry (see Wagner, 2011). Perhaps neither of these approaches is likely to be as effective as attracting employees who are personally committed to environmental sustainability when they are hired. Perhaps the effectiveness of training and incentives is more effective when accompanied by on-boarding and socialization “best practices” such as those described by Bauer, Erdogan, and Taylor (Chapter 9, this volume), which are designed to lay a foundation for subsequent HRM and HRD efforts to promote environmentally friendly employee actions. Subsequently, efforts to elicit employee commitment, retain employees, and minimize voluntary turnover may ensure greater returns on the investments made to develop a pro-environment workforce (see Mesmer-Magnus, Viswesvaran, & Wiernik, Chapter 7, this volume).
Future research could begin to develop new knowledge about how best to design learning opportunities that extend over long periods of time, generate intrinsic interest, and lead to desired behavioral change throughout the organization (see Millar, 2011). Practical knowledge is needed concerning questions such as:

- What types of activities are most effective in stimulating employees’ desire to learn and promote active employee engagement in environmental issues?
- Is repeated and regularized involvement is such activities for short periods of time more effective than intense immersion for one or two days?
- What percentage of the workforce needs to participate in order for their experiences to disseminate and influence nonparticipants? Does the answer depend on who participates, for example, does participation of higher-level executives speed up or slow down the diffusion process?
- What types of activities stimulate the formation of social networks that serve as conduits for peer-to-peer learning and influence?
- What steps can be taken to leverage individual learning to advance organizational learning?

**Toward Environmental Engagement**

An effective workforce management system creates a setting in which employees’ behaviors are directed toward achieving strategic targets such as energy efficiency, waste reduction, zero emissions, and other sustainability goals. But is tinkering with elements of the HR system sufficient to ignite the full potential of an organization’s workforce? Will the current, rather bureaucratic, top-down approach to HRM be adequate?

Employees learn behavioral norms by attending to the actions of others and the consequences associated with those actions. The actions of peers and those in supervisory and leadership positions, and the consequences associated with those actions, matter. But employees are self-directed, too. Employers who seek to develop more engaging workplaces recognize that employees’ feelings
about the organizations where they work influence a wide range of discretionary behaviors. According to a recent survey of Canadian firms, employee engagement is associated with more positive views of a company’s reputation for corporate social responsibility. One interpretation of the study’s findings is that employers who invest in socially responsible management practices (including recycling, reduced business travel, and community involvement) reap a return that is paid back in the form of more responsible environmental behaviors (Hall, 2010).

Effective environmental initiatives will surely include some traditional HRM practices—including socialization, training, and performance management. But the novel, experiential practices also have great appeal and may be more effective in creating a truly engaged workforce. At companies like Google and Intel, employee gardens have been established on company grounds. Although they were introduced as an employee perk rather than for educational purposes, with a little imagination, employee gardening activities could be developed into educational experiences that teach principles of environmental sustainability. Perhaps supporting employees’ voluntary participation in environmental activities that are only weakly associated with their work will prove to be more effective as a means for leveraging the human desire for self-determination, compared to more formal programs and schemes designed to push employees toward more environmentally responsible behavior on the job.

Many organizations already understand the power of passion. At Sherwin-Williams, the passion of environmental “true believers” helped convince executives to develop their EcoVision, which in turn relies heavily on the continued dedication of such employees (see DuBois, Chapter 12, this volume). At 3M, the passion of executives and employees at all levels throughout the organization drives and sustains that company’s culture of environmental sustainability (see Paul & Nilan, Chapter 11, this volume). Thus, perhaps the most significant question to address is

- How can the free will and idiosyncratic interests of employees be addressed and leveraged by employers as they strive to engage the hearts and minds of employees for the purpose of achieving environmental sustainability?
Conclusion

Achieving environmental sustainability will not be easy. There are no quick fixes for this complex challenge. Recognizing the need for action is the first important step toward finding solutions, and many organizations have taken that step during the past decade. Now the time has come for HRM and HRD practitioners and scholars alike to demonstrate that they can contribute to the success of environmental sustainability initiatives in the workplace. Environmental interventions can influence an organization’s internal operations, supply chain, distribution processes, marketing efforts, customer behaviors, and so on. To be maximally useful, future research should reflect and address these interdependencies; it will involve stepping out of narrow knowledge silos and working in multidisciplinary teams of experts.

Nor is it likely that the most useful new insights will flow from one-shot, short-term, or highly focused interventions—that is, the types of interventions that lend themselves to publication in scholarly journals. Collaborative efforts that cut across functional, disciplinary, and organizational boundaries and extend over substantial periods of time will be required to effect change and document the outcomes (see Fairfield, Harmon, & Behson, 2009; Harris & Crane, 2002).

Multi-level complexity also must be addressed. At the individual level of analysis, we seek to understand and perhaps alter the attitudes and behaviors of individuals who often are embedded in a larger organization, which itself is interdependent with other organizations that influence its environmental footprint. Employees’ attitudes and behaviors also are shaped by a variety of relationships with people in other organizations and community groups (schools, professional associations, talent agencies, political groups, and so on). Such complexity presents challenges when conducting research, but tackling such challenges may also contribute to the development of enriched theoretical models, creative research methodologies, and knowledge that can be readily applied to achieve specific outcomes.

Many leaders in this new arena contributed to this volume with hope of inspiring you to consider how you can contribute to the creation and diffusion of new knowledge that contributes
to achieving environmental sustainable organizations within the foreseeable future. We all look forward to seeing the results of this effort!

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