Green Expectations:
The Intended and Unintended Consequences of Implementing A Voluntary Environmental Management System

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Abstract

Over the past two decades, many corporations appear to have embraced a new approach to dealing with environmental issues. The nature and consequences of this corporate environmentalism has provoked lively debates in the academic and popular literature. This paper uses insights from organizational theory to reframe current debates on corporate environmentalism, focusing particularly on the voluntary implementation of environmental management codes. Models of organizational behavior are used to analyze organizational motives for adopting voluntary environmental management codes. These models are then evaluated with respect to the specific experience of the Mexican subsidiary of a transnational pharmaceutical corporation in implementing a voluntary environmental management system.

1. Introduction

The past two decades bear witness to a seeming change in corporate attitudes towards environmental issues. Outward manifestations of corporations' newly found concern with protecting and enhancing the environment are widespread. Reading the newspaper, paging through a popular magazine, watching television, or surfing the web, the reader and viewer frequently encounter stories and advertisements proclaiming the environmental commitment of corporations around the world. Gaining in popularity since the late 1980s, such statements of environmental commitment are particularly salient among large enterprises with international reputations. Such national and multinational corporations are at the forefront of writing environmental policies, implementing voluntary environmental management systems, publishing annual environmental reports, and improving their corporate environmental images. They are the leaders in developing, defining, and implementing an assemblage of business practices for dealing with environmental issues that I call corporate environmentalism.

Key tools in this assemblage are voluntary environmental management codes. Such codes, voluntarily adopted by firms, provide templates of subject areas that firms should address in their environmental programs. Voluntary environmental management codes can be divided between: 1) those drafted by industry groups, such as Responsible Care®, the International Organization for Standardization's ISO 14000 series, and the Business Charter for Sustainable Development; 2) those initiated by government, such as the European Union's Eco-Management and Audit Scheme (EMAS); and 3) those introduced by non-industry groups, such as the CERES Principles and The Natural Step (Nash and Ehrenfeld 1997). As a result, they vary quite widely in their specific contents. Nevertheless, they are all aimed at systematizing and codifying firm environmental performance.

As corporations are taking (or at least claiming to take) a more responsible approach to managing their environmental impacts, a heated debate has emerged in both the popular and scholarly literature about the nature of corporate environmentalism in general and the effectiveness of voluntary environmental management codes in particular. Green business advocates argue that environmentalism can be an opportunity for business (Schmidheiny 1992; Elkington 1994; Elkington and Burke 1987; Lovins and Lovins 1997). Such authors highlight the "win-win-win" business strategies that "simultaneously benefit the company, its customers, and the environment" (Elkington 1994 quoted in Eden 1996:14). Voluntary environmental management codes are described as the best way to manage an organization’s environmental aspects. In contrast, skeptics of corporate environmentalism identify fundamental contradictions in profit-driven and environmental thinking. They view corporate environmental claims with cynicism, pointing to corporate green washing of environmentally destructive practices and accusing corporations of trying to dull the critique environmentalism poses to unfettered profit-maximization. Voluntary environmental management codes characterized as meaningless verbiage intended to undermine government regulation (Karliner 1997; Eden 1996; Beder 1997; Tombs 1993).

Situating debates about corporate environmentalism in the context of organizational theory moves the discussion beyond the polarized duality of win-win-win versus green washing perspectives. I uncover the different models of organizational behavior, specifically the interactions between organizations and their environments, underlying debates over corporate environmentalism. Each model implies radically different motivations for adopting environmental management codes; motivations that may have significant implications for the effectiveness of voluntary codes in improving firm environmental performance.

The paper is divided into three sections. In section 2, I discuss use organizational theory to lay bare possible motives for the adoption of voluntary codes of environmental management practice. In section 3, I then turn to a specific firm's experience in implementing a voluntary environmental management code. The data presented are based on two months of fieldwork at the Mexican subsidiary of a transnational pharmaceutical company. In Section 4, I conclude by suggesting potential avenues for future research on the nature and consequences of corporate environmentalism.

Before launching into my argument, I want to point out the relevance of this research beyond the empirical context of firm environmental practice. My argument may shed light on some fundamental concerns in international law. Over the past twenty years there has been a tremendous proliferation of international agreements. Such treaties are called "soft law" because unlike "hard law" at the national level, international treaties are entered into voluntarily (Victor 1997). In this they parallel voluntary codes of environmental management practices. Understanding the conditions under which and processes by which voluntary codes result in effective change may help to illuminate under which conditions international agreements will encourage compliance and produce actual changes in behavior.

2. Organizational theory and voluntary environmental management codes: Fixed environment models

A central question of the sociological literature on organizations is the relationship between organizations and their institutional environments. There are three main perspectives on the interactions between organizations and their environments: a fixed environment perspective, a social constructivist perspective, and a co-evolutionary perspective. Under the fixed environment perspective, the causal arrows point from the environment to organizations. Organizational environments are immutable and organizations either adapt by actively responding to environmental cues (Miles 1984; Pfeffer and Salancik 1982) or are passive products of environmental selection (Hannan and Freeman 1984, 1977). In contrast, the social constructivist perspective argues that organizations enact or socially construct their environments (Fligstein 1996; Wendt 1992). The causal arrow in this perspective goes from the organization to its environment. Finally, a co-evolutionary model allows for the causal arrows to point in both directions. An organization's

environment is characterized as uncertain and malleable. Organizations interpret and respond to their environments. Through the process of interpretation and response, they help to shape their environments.

Most of the literature on corporate environmentalism implicitly adopts the fixed environment model. Although they have contrasting views of the motivations behind corporate greening, both green business advocates and critics of corporate environmentalism assume that organizational behavior is determined by organizational environments. Organizational actors are modeled as responding to cues from their external environments. These cues come in the form of market pressures, environmental legislation, and interest group pressure (Williams et al. 1993; Afsah et al. 1996; Tietenberg 1997).

However, supporters and critics of corporate environmentalism do diverge in their analyses of the mechanisms by which firms respond to environmental pressures. Green business advocates argue that changes in environmental practices are driven by efficiency considerations. They point to the logic of the market, claiming that environmentally responsible behavior is more economically efficient and financially profitable. Measures such as energy conservation (Lovins and Lovins 1997), the adoption of international standards to reduce trade barriers (Delmas 1999), charging premiums for green products (Mainieri et al. 1997), and reducing waste disposal costs (Andrews 1998) are listed as examples of efficiency-inspired adaptations. In contrast, critics of corporate environmentalism argue that firms are seeking legitimacy from a variety of constituencies, including government regulators, environmental interest groups, consumers, and company employees (Rowell 1997; Karliner 1997; Eden 1996). Firms therefore create structures that enhance legitimacy but do not necessarily reflect changes in firm environmental practices.

This divergence in understanding of corporate environmentalism reflects a split in organizational theory regarding the forces that drive adaptation. Economic perspectives on organizational change focus on efficiency drivers. Organizational survival is predicated on efficient use of resources, efficient management of uncertainty expressed as transactions costs, or efficient management of asset specificity (Williamson 1981). Pfeffer and Salancick (1982) similarly focus on rational agents maximizing their resource control and minimizing their resource dependencies. In contrast, Meyer and Rowan (1983) and DiMaggio and Powell (1983) argue that adaptation is driven by legitimacy imperatives. In their ground-breaking article "Institutionalized Organizations: Formal Structure as Myth and Ceremony," Meyer and Rowan argue that "organizations are driven to incorporate the practices and procedures defined by prevailing rationalized concepts of organization work and institutionalized in society. Organizations that do so increase their legitimacy and survival prospects independent of the immediate efficacy of the acquired practices and procedures" (1983:21). In other words, efficiency may even be sacrificed in order to gain legitimacy. DiMaggio and Powell, in explaining what they perceive as a "startling homogeneity of organizational forms" (1983:148), acknowledge the importance of competitive isomorphism as described by Hannah and Freeman (1984). However, they also stress that in

organizational fields not characterized by free and open competition, institutional isomorphism is a key dynamic in the pursuit of legitimacy and political power.

The motivations for adopting voluntary codes of environmental practice do not only have theoretical implications. The reasons—either efficiency or legitimacy—that motivate a corporation to implement a voluntary code of environmental management practice may significantly affect that firm's environmental performance. In making this argument, I follow Edelman et al. (1991) who reason, in the case of equal employment opportunity and affirmative action law, that "employers' motivations for creating internal complaint procedures are likely to affect both the way in which complaints are handled and the resolution of those complaints" (1991:1-2). If voluntary environmental management codes were adopted as an efficient mechanism for improving environmental performance, then empirically, one would expect to find a strong correlation between the implementation of a voluntary code and a reduction in pollutants discharged. If, on the other hand, the codes were primarily adopted as "symbolic structures," elaborations of formal organizational structures that serve as visible symbols of compliance (Edelman 1992), they would probably not affect environmental performance.

A survey of the limited empirical data relating adoption of voluntary environmental management codes and firm environmental performance provides mixed results, although generally favoring legitimacy arguments. Part of the problem is the sheer difficulty of getting systematic data of firm environmental performance. Levy's (1995) broad empirical study is exceptional for a field of research populated by single firm case studies and theoretical models of firm environmental behavior. Based on a cross-sectional study of eighty corporations, Levy finds no correlation between firm environmental practices (indicated by environmental policies and procedures) and firm environmental performance (measured by emissions of hazardous substances in air, land, and water).[1] The analysis suggests that codes of environmental management practice are primarily symbolic. In contrast, single firm case studies often support an efficiency logic. For example, DuPont is progressing steadily towards its zero emissions goal. Similarly, Royal Dutch/Shell reports a decline in its NOx, SOx, and CO2 emissions (Shell 1998). However, this case study evidence is sparse, non-generalizable, and potentially biased.[2]

[1] The eighty corporations in the analysis are a subset of an original sample of 169 transnational corporations that responded to a Benchmark Survey on Corporate Environmental Management conducted by the Transnational Corporations and Management Division of the United Nations Department of Economic and Social Development. The subset was chosen based on the fact that Toxic Chemical Release Inventory (TRI) data was available for the US facilities of these companies.

[2] Several studies on voluntary environmental management codes focus on patterns of adoption (Delmas 1999; Roberts 1999). These studies do not provide conclusive evidence in support of either efficiency or legitimacy arguments. For example, Roberts finds that "the typical Brazilian chemical firm which subscribes to the Responsible Care environmental program is a foreign-owned, publicly-held, professionally-managed firm which exports about three million dollars a year and has over 200 employees" in contrast to the non-participants "who tend to be smaller, nationally-owned firms who sell

In summary, the sociological literature on organizations suggests that the motivations behind the adopting voluntary environmental management codes may significantly affect the consequences of implementing the codes. If firms implement voluntary environmental management codes because they are an efficient way of managing environmental aspects, then the codes should lead to improved environmental performance, assuming tightly coupled organizational units. If, on the other hand, firms are primarily seeking legitimacy, then adopting a voluntary code may serve only a symbolic function and will not result in any tangible reductions in harmful emissions. However, both of these predictions are based on fixed environment perspective, despite differences in motivations for adaptation. Turning to a co-evolutionary perspective opens up the possibility that specific firm responses may in turn alter the organizational environment.

3. Sund Mexico's experience with voluntary environmental management: A co-evolutionary perspective

In contrast to fixed environment perspectives, a co-evolutionary[3] approach emphasizes the two-way interactions between organizations and their environments. Miles' (1984) discussion of process models introduces the idea that "the external environment is seldom immutable. Organizations [may thus] engage in a number of activities designed to cause alterations in the external environment that are more favorable to existing organization structures, processes and goals" (1984:313). Pfeffer and Salancik's (1982) notion of a negotiated environment reflects a similar idea. They argue that the best way to manage dependence is to coordinate with other organizations, thus partially controlling the social environment. Although they argue that "linkages help stabilize the organizations exchanges with its environment and reduce uncertainty" (1982:145), the idea of a negotiated environment goes beyond rational adaptation to an uncertain and unknowable environment because it entails generating shared norms, and thus creating the environment in which the organization functions.

Thinking of organizations as both responding to and shaping their environments produces additional insights into the motivations and consequences of corporate environmentalism. Up until the late1970s, there existed a generally accepted paradigm of the relations between firms, government, and the public. The shared understanding recognized that production was organized in an environmentally destructive manner. Firms generally had a reputation for polluting the environment and it was believed that only aggressive regulation by government would improve firm environmental performance. In debates between firms and public interest groups, the moral power of environmentalism was firmly in the hands of the public. The corporate

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none of their products outside Brazil" (1999:12). This pattern can be equally well-explained by efficiency gains from the reduction of barriers to international trade as by legitimacy benefits to chemical firms with an international consumer audience. Delmas (1999) reports worldwide patterns of ISO 14001 certification. The majority of ISO 14001 certified firms are based in Western Europe (55%), followed by the Asia-Pacific region (38%), North America (4%), and Latin America (2%). This pattern could be due to efficiency, legitimacy drivers or specific historical events.

[3] I borrow the term co-evolutionary from Norgaard (1994).

environmentalism of the 1990s is both a response to this paradigm and an effort by firms to create a new set of norms characterizing the relationship between firms, government, and the public. Specifically, the firms implementing the ideals and practices of corporate environmentalism are trying to reposition themselves as environmental leaders. Environmental leadership implies that the firms' operating activities are organized to minimize environmental impacts. In addition, it implies that firms do not need the "stick" of government regulation to guarantee improved environmental performance. Rather both government and the public can trust firms to self-regulate and innovate in protecting and enhancing the environment.

How does a co-evolutionary perspective broaden understandings of the motives for and consequences of adopting voluntary environmental management codes? In order to answer this question, I present evidence from a case study of one firm's experience implementing an environmental management system based on the ISO 14001 standards. The details of the case study underscore the key insight of a co-evolutionary perspective, namely the interaction between organizational strategies and environmental pressures. Sund Mexico's motives for implementing an EMS include both efficiency and legitimacy drivers. However, neither efficiency nor legitimacy is assessed within fixed parameters. The Sund Mexico experience shows that the economic efficiency of improved environmental management is very difficult to document and calculate. Justifying the implementation of an EMS on efficiency grounds reflects less the calculable efficiency of the program and more an attempt to create and capitalize on a shared belief. Likewise, legitimacy efforts are not limited to adopting symbolic structures that meet societal expectations. Rather, Sund Mexico self-consciously interacts with its external and internal constituencies in order to shape expectations of what constitutes responsible corporate environmental practice.

Finally, the Sund Mexico case study also documents that the co-evolutionary interactions between organizations and their environments produce unintended consequences. Specifically, I argue that Sund Mexico's environmental management system is both a response to and an effort to shape the norms and structures governing the firm's relationships with its employees, the local community, national government, and an international public. Embedded in this process are unintended consequences that place new restrictions on Sund Mexico's environmental practices and decision-making.

Environmental management at Sund Mexico

Sund Mexico is one of nineteen subsidiaries of the Sund Corporation, a transnational pharmaceutical corporation headquartered in the United States. The Mexican subsidiary, established in 1943, is located at the southern outskirts of Mexico City in a residential area. Within Sund's international structure, Sund Mexico is responsible for processing primary ingredients into final pharmaceutical products that are sold locally and internationally. As a "fill/finish" facility, the subsidiary imports ingredients in the form of powder and solvents and then manufactures and packages final products. It manufactures health care products for the treatment of

central nervous system diseases, cancer, infectious diseases, cardiovascular diseases, and endocrine diseases, as well as animal health products. In 1996, the subsidiary realized annual sales of $85 million. Sund Mexico employs 600 people, 200 of whom are sales representatives.

Operations at Sund Mexico are divided into five primary areas: Manufacturing, Marketing, Medical Services, Financial Affairs, and Human Resources. The manufacturing area is further subdivided into Production, Engineering and Maintenance, Materials, and Quality Control. Environmental Affairs falls under the supervision of Engineering and Maintenance.[4] The facility's pollution sources include emissions from electric generators and boilers, vapors from chemical reactions in the laboratory, emissions from the dust extractors in the sterile production unit, wastewater, hazardous waste from production processes, and non-hazardous solid waste. Its primary environmental impacts can be categorized as air emissions, wastewater effluent, and hazardous and solid waste.

Over the past seven years, Sund Mexico has been transforming and standardizing its environmental programs. The primary impetus for changes in Sund Mexico's environmental program has been a shift in the environmental management strategy of the Sund Corporation. The official beginning of Sund headquarters' new approach to environmental management was marked by the publication of its first environmental policy in 1991. At that same time, it initiated a variety of formal environmental programs, including an Environmental Quality System to manage compliance and a global office paper and beverage can recycling program. In the early 1990s, the Sund Corporation also became a member of the CMA's Responsible Care® program. Under Responsible Care®, Sund is required to improve its performance in the areas of community awareness and emergency response, distribution, pollution prevention, process safety, employee health and safety, and product stewardship. In 1995 and 1996, to supplement its Responsible Care® commitments, the Sund Corporation began implementation of an environmental management system (EMS)[5] in its U.S. facilities based on the ISO 14001 series.[6] The first step of implementing the EMS was to update the corporate environmental policy and guidelines. Concurrent with the updated environmental policy, the Sund Corporation published its first environmental annual report in 1995. The report summarizes compliance and emissions data over the past

[4] See Appendix B: Sund Mexico organizational chart.

[5] An environmental management system (EMS) forms guiding structure for many firms' environmental practices. An EMS requires a firm to inventory its facilities, processes, and products to determine their environmental impacts. Based on this knowledge of a firm's environmental aspects, a comprehensive environmental program is planned. Such a program includes targets and objectives, assigned responsibilities for all employees, documentation, and accountability and review mechanisms. Implementing an environmental management system has the potential to enhance firm profits through changes in production processes, through reductions in administrative costs, and through improved internal management (Barker and McKiel 1997:4-5).

[6] The cornerstone of the ISO 14000 series is the environmental management system (EMS) approach, detailed in the ISO 14001 documents. ISO defines an EMS as the "organizational structure, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy." An environmental policy is a "statement by the organization of its intentions and principles in relation to its overall environmental performance" (Barker and McKiel 1997).

several years and highlights environmental successes at various subsidiaries around the world. The 1995 report was followed by environmental annual reports in 1997 and 1998.

The changes at Sund headquarters filtered to the Mexico subsidiary through a variety of channels. With respect to general environmental management, Sund Mexico followed Sund Corporate's lead and established an official environmental program in 1993, when it hired an Environmental Affairs Coordinator. Prior to the new hire, environmental responsibilities were shared by the Operations and Maintenance Coordinators. In 1993, managing compliance with government regulations and corporate programs, tracking emissions, managing the wastewater treatment and hazardous waste storage and disposal, identifying opportunities for waste minimization and pollution prevention, and preparing annual environmental performance reports for Sund headquarters became the official responsibilities of the Environmental Affairs Coordinator.

Sund Mexico's environmental program has grown significantly in the air, water, and waste areas since 1991. Total capital investments in environmental controls and programs sum to over $2 million over the past five years; an additional $60,000 investment is projected for 1997-1999. Although these amounts represent a small fraction of annual profits, they do document substantial investment in the environmental program. In addition, Sund Mexico's general environmental program underwent a dramatic change in 1997. That year marked the integration of Sund's international subsidiaries into the corporate EMS framework. In February of 1997, a Sund corporate audit team assessed Sund Mexico's environmental program according to the criteria defined by an EMS framework. The audit established new priorities for the Sund Mexico environmental program over the next three years. The action items identified in the corporate audit lay out the agenda and time frame for implementing an EMS in Sund Mexico.

Drafting an environmental policy was the first action item in Sund Mexico's implementation of an EMS. The environmental policy provides the guiding framework for planning an environmental program and setting environmental objectives. Both Sund Corporate' and Sund Mexico's policies link the Sund Corporation's mission as a global healthcare provider to the environmental policy statement:

> Sund Mexico's mission is to create and deliver superior healthcare solutions in order to provide customers around the world with optimal clinical and economic outcomes. This mission requires that Sund Mexico run its operations and activities in a way that protects human health and minimizes impacts on the environment in the pursuit of sustainable development. The company must focus on prevention and continuous improvement in the process of complying with its environmental policy (Sund Mexico 1997).

The policy is supported by environmental guidelines. Sund Mexico's nine guidelines address: compliance with legal and corporate requirements; integrating environmental decisions into all firm activities; efficient use of raw materials and energy; employee environmental responsibility; employee environmental and

emergency-preparedness training; external communication; responding to the public's questions; participation with governmental and non-governmental organizations; and reporting to management.[7]

Sund Mexico's environmental policy and guidelines embody four distinctive characteristics of corporate environmentalism. Corporate environmentalism is distinctive from past firm environmental practices in its rationalized approach, its emphasis on shared responsibility and continuous improvement, and its mobilization of environmental ideals and values. Sund Mexico's environmental policy lays out explicit objectives for the environmental program and establishes a set of rules to meet the objectives. The guidelines "encourage and expect each employee to be environmentally responsible" and stress employee environmental education and training. Each employee is expected to make his or her contribution to improving the company's environmental program, be it through recycling, process innovation, or waste minimization. Sund Mexico promises continuous improvement in all of its environmental programs. Finally, the guidelines include mechanisms through which Sund Mexico communicates its environmental ideals. Sund Mexico pledges to communicate its environmental commitment to employees, shareholders, vendors, customers and the community in which it operates.

Intended consequences of implementing voluntary environmental management codes

From a firm's perspective, implementing a voluntary environmental management codes has three intended consequences. First, taking a professionalized approach to environmental management can increase the profitability of production. Specifically, firms are using environmental considerations to motivate changes in production that are both environmentally less damaging and economically profitable. Second, firms are responding to the increased interest in environmental issues both locally and internationally. Implementing voluntary codes is a tool through which firms market a new and improved environmental image, simultaneously harnessing the benefits of having an excellent environmental reputation and dulling the environmentalist critique of firm practices. Third, voluntary codes are a means by which firms are advocating for self-regulation as an alternative to command and control government regulation.

Sund Mexico clearly anticipated that improved environmental management would reduce costs. An internal memorandum sent by Sund headquarters to all subsidiary production managers provides an internal version of the Sund Corporation's environmental goals. The memo lists:

1. Continue our overall reduction in emissions in a cost-effective way;
2. No negative publicity of Sund's environmental performance;
3. No reportable spills or discharges;
4. No fines for non-compliance;

[7] See Appendix C: Sund Corporate Environmental Policy and Guidelines. Sund Mexico's environmental policy exemplifies Sund Mexico's close relationship to its corporate parent. Sund headquarters mandated that all subsidiary policies contain the elements of the corporate policy and adjust them to the specifications of the local site. As a result, Sund Mexico's environmental policy closely resembles Sund headquarters' policy.

5. All overdue audit actions closed by the end of 1997;
6. Complete audit reports 60 days after audit; and
7. Simplify our process and lower cost to support the '40% COPS' [cost of production] goal (Sund 1997c)

as the seven goals for the company's environmental program. Three of the seven items focus on cost reduction. Similarly, the Environmental Affairs Coordinator, when presenting to upper management a draft of Sund Mexico's environmental policy and guidelines, repeatedly stressed the cost-effectiveness of the new style of environmental management. Rather than trying to present the environmental policy and guidelines as Sund Mexico's ethical or moral responsibility, he legitimized it as a cost-effective management strategy. Given that the presentation was geared towards gaining upper management approval for the environmental policy, the cost focus is not surprising. It does, however, point to one of the benefits Sund Mexico expects from adopting a voluntary environmental management system.[8]

More generally, EMSs are intended to create opportunities for cost reductions in a variety of ways. The first step in developing an EMS is to draft detailed flowcharts of a firm's production processes. This helps in systematically identifying all possible technical opportunities to enhance profits through waste minimization, pollution prevention, recycling, cascading of waste streams, and process improvements and refinements. An EMS is also used to track trends in daily operations. Continuous monitoring of processes helps to prevent instances of non-compliance and the associated payment of fines, legal fees and staff time. Fines for non-compliance with government regulations or difficulties in obtaining permits, loans, and insurance coverage are all avoidable business expenses. An EMS increases the profitability of production by reducing these administrative costs of doing business. Finally, a firm's productivity is improved by increasing the efficiency of management. An EMS is considered a component of total quality management (TQM), which aims to increase productivity by focusing on continuous improvement of operations, data-driven decision-making, a systematic approach, and a long-term focus (Wever 1996:5). Under an EMS framework, systematic evaluations are repeated over time so that the environmental management program is dynamic and continues to improve. Such management strategies are designed to improve internal communication, clarify responsibilities, and increase opportunities for innovation. These motivations for implementing an EMS coincide with efficiency arguments. Aspects of Sund Mexico's environmental program fit with efficiency ideas. The waste management program serves as a good example. The recycling program has reduced the amount of solid waste going to disposal facilities by 35%. This resulted in a $2,000 or 40% reduction in solid waste transport costs since 1995.

[8] Ironically, cost-effectiveness is not an idea included in Sund Mexico's environmental policy itself but emerges as an underlying rationale for implementing the policy and guidelines. This tension highlights one of the shortcomings of environmental management systems. Not all the objectives in Sund Mexico's environmental policy will prove to be cost-effective. Therefore, the fact that cost-effectiveness becomes a hidden subtext in Sund Mexico's environmental policy actually may prohibit the implementation of some of the objectives explicitly stated in the policy.

However, Sund Mexico's experience also reveals the practical difficulties of assessing the cost-effectiveness of environmental management systems and shows that efficiency is a flexible concept that can be stretched describe a program whose costs and benefits are difficult to calculate. For example, over the past several years, Sund Mexico had invested in new technologies whose emissions fall within 50% of the allowed standards for the new boilers, 1% for the dust collector systems, and an average of 30% for the wastewater treatment plant. Moreover, the company has invested over $100,000 to reduce VOC emissions, for which they have never been cited for non-compliance. Efficiency calculations for each of these investments would have to include projections of fines avoided, which in the case of the $800,000 waste water treatment plant was only a $200 fine for phenol and pH violations in 1993. Of course there were other benefits, such as reduced water use, accruing from the construction of the wastewater plant, yet the degree to which the investment was efficient was speculative, dependent on anticipated changes in Mexico City's water regulation.

Fligstein (1990) elaborates on the social construction of efficiency, which dovetails with the third main perspective on organization-environment interactions. This perspective is captured by Pfeffer and Salancik's (1982:Chapter 4) idea of an "enacted environment." Starting from the assumption that "the events of the world around us do not present themselves to us with neat labels and interpretations" (1982:72), they argue that "determination of what the environment is rests with the organization" (1982:73). Pfeffer and Salancik present only a limited version of the social constructivist approach because they maintain a separation between the "enacted" environment and the "real" environment. Organizations may thus be wrong in a particular enactment. Fligstein (1996) takes the argument one step further by arguing the market participants create the world in which they operate. Conceptions of control serve to structure understandings of how markets work and provide the frame in which to interpret other actor's behavior.

Legitimacy concerns seem to lie at the heart of a second set of factors motivating Sund Corporate and Sund Mexico to implement an EMS. The benefits of a good environmental reputation with both local and international stakeholders are plentiful. Firms with good environmental reputations can benefit in the market for green products and can use their environmental reputation as a marketing tool. Environmental criteria are increasingly used by banks in evaluating potential loan recipients, by insurance companies in offering coverage for pollution incidents, and by purchasers and suppliers. A firm's environmental reputation can be important in attracting and retaining a high quality workforce. A reputation for responsible environmental behavior can also enhance goodwill among local communities and public interest groups. Excellent environmental practices avoid bad publicity and negative pressure from shareholders. Firms who demonstrate environmental leadership can benefit from regulatory incentives. In sum, a good environmental reputation may result in significant economic benefits.

The benefits of a good environmental reputation were recognized by the Sund Corporation in the United States and by Sund Mexico. The Sund EMS Framework Manual, distributed to all subsidiary environmental affairs staff listed the following reasons for implementing an EMS:

- Employees who can articulate our environmental commitment have been shown to be more favorable towards the company as a whole (CMA [Chemical Manufacturers Association] employee survey);
- The public (including existing and potential shareholders) more highly values corporations with a commitment to protecting the environment;
- Facilities with excellent neighbor relations are able to obtain public support for new or revised facilities; and
- Data has shown that environmentally conscious companies make better suppliers

(Sund 1997b)

Interviews with Sund Mexico managers about why Sund Mexico was gearing up its environmental program also revealed that reputational incentives are an important reason for implementing an EMS. Sund Mexico's General Director and the Directors of Production, Human Resources, Marketing, and Medical Services were asked what motivated Sund Mexico to become more pro-active regarding its environmental program. Several general themes emerged from their responses. All five executives identified as a primary motivator greater public awareness about environmental issues generated through the media and environmental education programs in schools. They also identified the increased likelihood of individual activism as intensifying pressure exerted by the public. Sund Mexico's General Director responded that international companies set standards in the area of environmental management. Because of society's higher expectations, international companies feel more pressure to act well towards communities and employees. Therefore, for its employees, for other industries and for the general public, Sund Mexico presents itself as an exemplar of excellent environmental performance.

A third source of evidence that underscores the importance Sund places on its environmental reputation is the list of environmental goals communicated in the internal memo from Sund headquarters. The memo sets "no negative publicity of Sund's environmental performance" and "no reportable spills or discharges" as two priorities of the new Sund environmental program (Sund 1997c). These internal environmental management goals echo the opinions expressed by Sund Mexico executives.

However as I demonstrated for efficiency motivations, legitimacy concerns also do not follow a model of an organization responding to a fixed environment. Rather, firms influence their environments by shaping the expectations of stakeholders, both locally and internationally. Reputation building in the community has been an ongoing effort at Sund Mexico. The subsidiary's administrative and manufacturing facilities are located in a 20,000 square meter complex in the southern outskirts of Mexico City in an area zoned for mixed use. It is adjacent to a major highway and one of Mexico City's four major bus terminals. Across the street from Sund Mexico is a country club and residential area. Sund Mexico's contact with the local community occurs through the *Asociación de Colonos*, a neighborhood association. The association has approximately 500 members,

representing ten percent of the neighborhood's population. Of the members, 97% are private homeowners, and the rest represent commercial enterprises and schools. Leadership roles in the neighborhood association are used as stepping-stones to obtain political offices. The *Asociación de Colonos* can exert influence on Sund Mexico by lodging a complaint with various government agencies. If government is unresponsive, sometimes the media is contacted directly, although this shaming strategy is used very infrequently.

Sund Mexico and the neighborhood association have excellent relations. The company is viewed as a very clean, trustworthy neighbor. In its forty-year history at this location, Sund Mexico has never been the target of any direct community activism. Most of the neighborhood group's activism has focused on moving the bus terminal —with all its air pollution problems— further south and out of the residential area (*Asociación de Colonos* 1997). Sund Mexico maintains its membership in the association by paying the six-month membership fee of 600 pesos and by sporadically attending the monthly meetings. It has also provided gifts in kind to neighborhood fundraisers. In the planning stages of a second manufacturing facility within the Sund Mexico complex, a company representative presented information about the new facility to the community group before construction began. The presentation included details about Sund Mexico's air and wastewater emissions and its plan to minimize the environmental impacts of the new facility. In addition, members of the neighborhood association were invited to tour the plant, in order to have a better sense of the operations within the Sund Mexico complex. The permitting of the facility proceeded without a problem.

In relations with more distant stakeholders, Sund headquarters takes the lead in advertising Sund's environmental policies. In Mexico, pharmaceutical corporations are not allowed to advertise specific products in print, radio, or television media. Therefore, running a green advertising campaign is not an option for Sund Mexico. Sales and marketing happen directly through visits to doctors' offices by sales representatives and through publicity from product launches. Sund Mexico's environmental impacts are not generally discussed during sales visits with doctors. Neither has the subsidiary created externally focused publicity events around its environmental investments. The same cannot be said of Sund headquarters, whose publicity materials influence perceptions of all Sund subsidiaries. The front page graphic of Sund's 1995 environmental annual report shows clear water flowing under a covered bridge flanked by green trees and framed by a deep blue sky. The first page has a picture of a globe, as seen from the moon, with an overlay pledging to conserve the environment. The report makes public the Sund Corporation's environmental policy and guidelines, describes it EMS, and provides anecdotal evidence of environmental success stories. Sund Mexico is featured as an environmental success story in the 1995 report. The report profiles Sund Mexico as "taking a proactive approach to pollution control" (Sund 1995:32) and details Sund Mexico's recent investments in the wastewater treatment plant, scrubbers, and boilers. The text is accompanied by a picture of the Sund Mexico facility's verdant garden.

The third key motivation for implementing an EMS most clearly underscores the co-evolutionary relationship between organizations and their environments. Government regulators and firms have a history of complicated and contentious interactions regarding environmental regulation. Although regulatory policies have been the driving force behind entire environmental industries and have created profit opportunities for select firms, firms generally oppose regulation and go to great lengths to avoid regulation and to shirk compliance. Government regulation is perceived as costly—environmental pollution control in the United States was estimated to cost around $200 billion in 1996 (Wever 1996:xvii)—and restrictive of a firm's freedom to individually manage its production processes and to make a profit. Command and control legislation, which mandates environmental performance standards or technology-based controls, is considered a blunt tool that does not account for firm individuality or allow firms any flexibility in meeting environmental objectives. In addition, command and control regulation is criticized for being static and for failing to provide incentives for firms to improve their environmental performance beyond compliance (Nash and Ehrenfeld 1997).

Firm self-regulation and/or partnering with government to develop appropriate regulation offer clear benefits for firms. Responsibility for regulation of environmental practice is internally imposed by individual firms rather than externally imposed by government. Requirements can be individually tailored to a facility's particular characteristics. Accountability would also shift. Under a command and control model, industry is accountable to government, as a representative of the public interest. Under a self-regulatory regime, industry is responsible primarily to itself, and potentially to government and the public via the publication of environmental performance reports. However, for a self-regulatory regime or partnership to be considered a viable proposition, firms need to address government and public distrust of firm behavior and to surmount skepticism about the accuracy of environmental performance data provided by firms. The quest for legitimacy encourages firms to strive for excellent environmental performance record. An excellent environmental record is often a pre-requisite for improved relations with regulators and possible benefits from regulatory incentives. A stated goal of firms implementing environmental management systems is a "desire to benefit from regulatory incentives that reward companies that show environmental leadership" (Barker and McKiel 1997:4-5).

Sund Mexico has not been spared the burdens of increased regulation and the Environmental Affairs Coordinator spent a significant portion of his time ensuring the facility's compliance with national and city environmental regulations.[9] Reducing the burdens of regulation was an explicit goal of Sund Mexico's

[9] Sund Mexico's environmental performance is assessed according to the *Normas Oficiales Mexicanas* (Official Mexican Standards known as NOMs) which detail the specific standards and technical guidelines that accompany old and new environmental regulation. Specifically, the NOMs address air emissions, noise pollution, hazardous waste management and disposal, and the development of an environmental impact assessment for any new construction project (Anonymous 1993). The NOMs were developed under the General Law for Ecological Balance and Protection, ratified in 1988, and the Federal Methodology and Standards Law, passed in 1992. The *Instituto Nacional de Ecología* (National Institute of Ecology - INE) is responsible for developing the NOMs. INE is also responsible for issuing permits and reviewing environmental impact assessments for proposed projects. Its partner organization, the *Procuraduría Federal de Protección al Ambiente* (Attorney General's Office of Environmental Protection - PROFEPA) enforces the regulations

improved and rationalized environmental initiatives. Sund Corporation intended for its new environmental programs to make Sund an environmental leader in the eyes of legislators. In a document providing guidance for drafting subsidiary environmental policies, Sund headquarters specifically identified the importance of "[stating] the organization's commitment to meet or exceed the legal requirements and the reasonable expectations of its stakeholders (Sund 1997b:10). Another guideline of Sund Mexico's environmental policy was to "actively participate with government agencies and other appropriate groups to insure that the development and implementation of environmental policies, laws, regulations and practices serve the public interest and are based on sound scientific judgement."[10]

Unintended consequences of implementing voluntary environmental management codes

Expected outcomes, however, are only one side of the changes effected by the adoption of voluntary codes of environmental management practice. To borrow a sentence form the historian Barbara Cooper, "short-

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and standards established by INE via the imposition of fines or even forced plant closure. Public complaints and periodic audits are used to monitor compliance. INE and PROFEPA fall under the jurisdiction of Mexico's Environment, Natural Resources, and Fisheries Secretariat (SEMARNAP), which is the highest level national agency responsible for environmental management. The third federal agency impacting Sund Mexico's environmental program is the *Comisión Nacional de Aguas* (National Water Commission - CNA). The CNA passed a National Water Law in 1992 that governs wastewater issues. Sund Mexico must also comply with a second level of regulations established by the Environmental Secretariat for the Federal District, Mexico's capital city. The city government regulations are generally more exacting than federal regulations. Mexico City passed a new environmental law in 1996 (ENSR 1996).

[10] An analysis of Sund Mexico's environmental investment history provides mixed evidence of its potential for environmental leadership and its ability to self-regulate, although the subsidiary is becoming more pro-active in its approach to environmental management. Sund Mexico appears to have made most of its environmental investments either in response to compliance violations or in anticipation of more stringent regulation at the national level. For example, in 1992, one of the two manufacturing plants was closed and fined $3,200 because of an inadequate dust collection system; in 1994, the company spent $20,000 on new dust collector systems. The wastewater treatment plant was constructed after a small fine and in anticipation of more stringent water quality standards. In 1996, the company installed a new set of chillers, which no longer used CFC-11, known to damage the stratospheric ozone layer, but instead HCFC-22, a less damaging coolant.[10] The switch in chillers was directly motivated by chlorofluorocarbon reductions mandated in the Montreal Protocol. Since 1993, Sund Mexico has not had any compliance violations, in part because no official inspections were carried out in 1996, and the official 1995 inspection consisted of an environmental impact assessment for a second manufacturing facility within the Sund Mexico complex. At present, the company is actively working to avoid future instances of non-compliance. Further improvements in the wastewater treatment plant are planned in light of anticipated changes in wastewater treatment regulations. One technology investment seems to have occurred independent of government regulation. Sund Mexico's environmental investment for the next two years includes the purchase of new scrubbers and the introduction of an aqueous coating process for one of its products in order to reduce volatile organic compound (VOC) emissions. The company will invest over $100,000 to reduce VOC emissions, for which they have never been cited for non-compliance.

Ironically, a current snapshot of the Sund Mexico's emissions would reveal it to be consistently exceeding regulatory requirements, rather than responding to government regulation. Emissions achieved with its new technologies fall within 50% of the allowed standards for the new boilers, 1% for the dust collector systems, and an average of 30% for the wastewater treatment plant. It is worth noting that one circumstance under which firms significantly undercut legislated emissions or effluent limits is when those standards have forced investment in new or upgraded technology. Often, the clean-up technology cannot be fine-tuned to meet the exact emissions standards and so firms outperform regulatory requirements as an unintended, although welcome, side effect of being forced to invest in new technology.

term strategic decisions have longer term unforeseen consequences" (1997:198). In the organizational theory literature, unintended consequences are the result of both environmental uncertainty and the bounded rationality of organizational actors. The latter highlights that actors never have access to perfect information. The former characterizes the difficulties of predicting a sequence of actions in a complex, interconnected, and thus uncertain, world. The idea of unintended consequences has been explored by several authors in different contexts. Osborn and Jackson (1988) introduce the idea of "purposeful unintended consequences," highlighting the difference between consequences that are unintended and those that are unstated, but not unintended. Caldwell's (1982) work on the National Environmental Policy Act (NEPA) reveals that the establishment of environmental affairs departments within firms was an inexplicit but not unintended goal of NEPA. In this paper, I use the term unintended consequences to mean those results of programs and projects that are unanticipated by those implementing the programs and projects. It is my argument that in implementing environmental management codes, firms are changing their internal operations and their institutional environments in ways that have unintended consequences. These unintended consequences act both internally and externally to encourage firms to incorporate environmental considerations into decision-making and into standard operations.

Developing, implementing, and maintaining an EMS is a complex and time-consuming process. It cannot be assigned as an extra responsibility to a single employee already carrying a full load. Rather, implementing an EMS generally involves the creation of a new position or department, with an environmental engineering, communications, and legal staff whose job responsibilities relate exclusively to a firm's environmental affairs. The staff of an environmental affairs department is loyal to the firm as a whole, like their colleagues in other departments. However, unlike their colleagues, they also have a specific commitment to improving a firm's environmental performance. These actors are responsible for providing centralized planning for a firm's environmental program, for proposing, funding, and guaranteeing the success of environmental projects, and for integrating environmental concerns into all facets of a firm's operations. The environmental affairs staff is looked to identify all environmentally motivated opportunities to increase profits. Finally, the job responsibility of these individuals includes insuring compliance with regulatory standards. Therefore, they become in-house enforcers, striving towards the same goals as government regulatory agencies. In sum, implementing a voluntary environmental code encourages the creation within a firm of vested interests in environmentalism. These interests are committed to expanding and institutionalizing the consideration of environmental concerns in firm decision-making.

Sund Mexico's environmental programs were the result of ongoing efforts by its environmental affairs department. The department was officially established in 1993 with the hiring of the Environmental Affairs Coordinator. Prior to the new hire, environmental issues, such as solid and hazardous waste disposal, were handled by the engineering and maintenance department; at that time, the environmental program consisted

primarily of submitting required reports to governmental agencies. In the past five years, Sund Mexico has significantly expanded its environmental program to include an air pollution control program, a water pollution control program, and a hazardous and solid waste management system. As of the summer of 1997, the environmental affairs department consisted of two employees, the Environmental Affairs Coordinator and the Wastewater Treatment Plant Operator. Upper management approved the addition of a third staff person in August of 1997. The establishment and growth of the environmental affairs department was a direct consequence of rationalizing Sund Mexico's environmental programs.

Institutionalizing environmental concerns is not limited to the environmental affairs department. An explicit component of voluntary environmental codes is shared responsibility. The Sund Mexico environmental affairs staff was responsible for involving all employees in a firm's environmental program. This was achieved through a variety of channels. One component of an EMS is to identify the environmental responsibilities of each position within a firm. Involving each employee, from the maintenance staff to the CEO, in the environmental program makes it difficult for a firm to make grandiose claims about protecting the environment without following through on those claims in practice. The involvement of every employee means that several hundred individuals are aware of a firm's environmental claims and programs. If a gross disparity exists between a firm's policy and practice, then each employee must be willing to rationalize this disparity.

Sund Mexico's focus on shared responsibility extended the creation of vested environmental interests to the entire firm. The second item on the corporate audit action plan was to identify environmental roles and responsibilities for all employees. The goals of this action item were to incorporate environmental performance objectives into employee evaluations and, more generally, to incorporate environmental concerns into standard management practices. In pursuit of these goals, the environmental affairs staff proposed that each employee sign a statement pledging his or her support of Sund Mexico's environmental policy and guidelines. The pledge would imitate a similar pledge that employees make to abide by the general employment policies of the Sund Corporation. In addition, it was proposed that Sund Mexico's General Director establish an environmental performance goal, under which employees and their supervisors would jointly identify each employee's personal environmental performance objectives. These objectives would be used to assess job performance during biannual performance evaluations.

Staff environmental education and training were also used to enable employees to integrate environmental concerns into their daily activities. Although such education and training programs were developed within a firm and are therefore unlikely to be radical or subversive, they could potentially create environmental awareness among employees and open up the possibility for all firm employees to integrate environmental considerations into decision making. In Sund Mexico, employee environmental education was realized through the efforts of the company recycling group and through environmental items in the in-house newsletter and informational bulletin boards. In addition, an environmental component to the sales and new

staff training programs was being proposed. Finally, an environmental education week, including presentations and contests, was being planned for Earth Day 1998. The specific environmental values that employees espouse and act upon as a result of environmental education are difficult to predict. However, even such education programs create the potential for discussions about potential environmental concerns.

Beyond environmental education, the Environmental Affairs Coordinator was also trying to introduce environmental concerns into general management practices by creating links with other departments. This policy addressed the corporate audit finding that Sund Mexico's environmental affairs department was almost exclusively linked to manufacturing operations. Unlike at Sund headquarters, where occupational health, safety and environmental affairs constitute a separate division with legal, management, engineering, communications, and marketing specialists, the Environmental Affairs Coordinator at the Sund Mexico subsidiary reports to the Engineering and Maintenance Manager, who falls under the management of the Director of Production. The Environmental Affairs Coordinator began to address this problem by initiating a brainstorming meeting with the purchasing department. As a result of the meeting an environmental component was added to the supplier evaluation process. In addition, the Purchasing Manager made an explicit commitment to reduce waste due to excess packaging of inputs supplied by vendors.

A second unintended consequence of implementing an environmental management code emerges from changes in how firms manage information. Building relationships with local communities forces firms to share information about their environmental performance. The increased openness constitutes a redefinition of the boundaries separating the firm from the public. At a more general level, firms are investing significant human and financial resources into their internal environmental programs and external environmental marketing campaigns. The intention behind these investments is, in part, to co-opt the ideological power of environmentalism. Nevertheless, through corporate environmentalism, firms are joining environmentalists in speaking out on the importance of protecting the environment.

Many of the reputational benefits of corporate environmentalism are contingent on firms making public information regarding operating activities and firm environmental performance. Such openness can be at odds with a firm's economic interests. Eden (1996:16) identifies access to information as a divergence between environmental and business thinking. From a firm perspective, information is a valuable commodity. Innovations in products and processes are central to gaining competitive advantage. A specific processing technique, the secret formula of a pharmaceutical product, or a reduction in material inputs sets one firm ahead of its competitors. Incentives to guard information also exist with respect to a firm's environmental programs. The less information is publicly available, the smaller the chance that information be misunderstood, misconstrued, or used against the firm. It is difficult to attack a firm's environmental program in a court of law or through a media campaign without documentation.

Based on external appearances, Sund Mexico was committed to open communication with local communities and the general public. In line with Sund headquarters' policy, Sund Mexico's environmental policy and guidelines pledged to respond to environmental questions from all interested parties. Specifically, Sund Mexico stated that "the company will communicate its commitment to environmental quality to … the communities in which it operates. The company will recognize and respond to the community's questions about its operations."[11] However, in the corporate EMS manual, that was designed to provide guidance for subsidiaries in implementing the environmental policy, a different communications policy was suggested. The manual advised:

> External communication and reporting demonstrates management commitment, addresses questions and concerns proactively, and encourages acceptance of the company's environmental policy and program. Some countries have regulations that require certain reporting. However, in some countries the release of some highly technical data may lead to abuse of the information by some environmental activist groups. Therefore, the company and plant site should seriously consider external shareholder needs for information, but the organization can decide what is relevant communication and thus it need not respond to everybody and anybody about any issue (Sund 1997b:17).

Thus, the internal definition of open communication is in tension with the image portrayed to the general public. The manual's caveat on what should be communicated reflects the feeling that some data is too technical to be understood by the general public. The EMS manual portrays Sund Mexico's responsibility to manage information in a restrictive, patronizing manner rather than to educate the public in order to explain the data.

This tension had not yet been explored, since the issue of "reasonable" information requests from communities has yet to arise in Sund Mexico. Interviews with community representatives revealed that the neighborhood group was concerned only with perceptible pollution. Since Sund Mexico had never had any dramatic spills or noxious smoke emissions, the community group has never expressed further interest in the company's manufacturing processes or environmental programs. As a result, an intriguing contradiction between Sund Mexico's public environmental policy and its internal communication policy had never been exposed.[12]

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[11] See Appendix C: Sund Headquarters Environmental Policy and Guidelines.

[12] The public's right-of-access to information about firm environmental performance is also at the heart of international debates about environmental auditing. Internal review and self-correction are central components of an EMS. The information generated in environmental reviews or audits is primarily intended to for internal management. The existence of such reports is creating debates regarding public rights-of-access to firm environmental information. In general, firms are vigorously opposing proposals granting public access to internal environmental audit information, however, a variety of national regulatory policies are forcing firms to disclose environmental performance information. Internationally, a variety of approaches have emerged that force firms to disclose environmental performance data.

In some countries, national legislation mandates that firms make public information regarding their environmental performance. For example, in the United States, the Toxic Release Inventory is a summary of the annual toxic emissions of over 300 chemicals by firms larger than ten employees (Ortolano 1997). In Indonesia, an innovative regulatory tool called PROPER (Program for Pollution Control, Evaluation and Rating) is being piloted. Under PROPER, government auditors rank companies from black to gold according to their performance on a variety of environmental metrics (Afsah et al. 1995). In Europe, certification under the Eco-Management and Audit Scheme

At the more diffuse level of environmental reputation building, environmental management codes inadvertently help to legitimize the centrality of environmental concerns and strengthen the ideological base of environmental movements. Firms have access to an enormous reservoir of financial and human resources. When these resources are mobilized through green advertising and marketing efforts in support of firm environmental claims, firms significantly contribute to the "greening" of public perception and publicly acknowledge the importance of minimizing the environmental impacts of economic activities.

Firms' focus on environmental issues supports the non-corporate environmentalism in a variety of ways. First corporate environmentalism may help to broaden the appeal of environmentalism. Through green advertising and employee environmental education programs, firms implementing voluntary environmental codes send an environmental message to a large audience. Some of these individuals may be more receptive to environmental advocacy from Chevron rather than from Green Peace. For example, Chevron's "People Do" television advertising campaign focuses on the corporation's effort to restore and protect the tidal wetland next to its Pascagoula, Mississippi refinery. The commercials have broadcast the importance of wetlands to millions of household across the United States (Chevron 1998). Secondly, the resources that many firms have committed to environmental management help to insure that environmentalism does not become a passing fad. Hoffman (1996) has documented fluctuations in firm interest in environmental issues in the chemical and petroleum industries. Interest peaked in the early 1970s, declined and then rose sharply again in 1988. The most recent upswing in firm interest in environmental issues is resulting in firms investing significant human and financial resources into their environmental programs. Firms therefore have a stake in supporting public interest in environmentalism, at least to the extent of profiting from their investment in implementing a voluntary environmental code. Thirdly, the greening of public perception resulting from firm environmental marketing will help to create an external context which rewards firms for minimizing environmental impacts. As more individuals and institutions base consumption and investment decisions on environmental criteria, good firm environmental performance will become more profitable.

Finally, firms implementing environmental management codes are not simply supporting the environmentalist cause but actually helping to delegitimize anti-environmentalist arguments. In the past, when industrial development and environmental quality were perceived to be in direct opposition, firms were able to construct a strong anti-environmentalist argument based on "jobs," "economic growth," and "freedom from bureaucratic interference." However, now that many firms are describing themselves as responsible environmental citizens and are claiming that responsible environmental management is good business, they undermine their own ability to argue for economic growth at the cost of environmental quality. They also undermine other firms' ability to make this argument. Even if one specific firm makes no environmental

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(EMAS) recommends that firms prepare an environmental effects statement certified by a third party and released to the public (Nash and Ehrenfeld 1997:492). EMAS intended to legally mandate disclosure of audit results, but firm

promises, claims made by competitors affect consumer and the general public's expectations of what is possible and acceptable in terms of firm environmental behavior. For example, when ARCO committed to meeting California gasoline fuel requirements in advance of the state mandated time-frame, it delegitimized the other oil companies who were claiming that the requirements were too stringent and impossible to meet by 1993 (Bryner 1995; Piasecki 1995).

As an unintended consequence of implementing an EMS, Sund headquarters and Sund Mexico were generating increased awareness of new environmental issues among a large and varied audience in Mexico. Sund headquarters' implementation of an EMS had created a new set of expectations of environmental responsibility for Sund Mexico. Employee environmental education and training, beverage can and paper recycling, and publishing an environmental policy were now necessary components of Sund Mexico's environmental program. The impetus for these changes did not come from within Sund Mexico. I also contend that pressure from the neighborhood association or environmental interest groups would not have resulted in a similar expansion of Sund Mexico's environmental program. Rather, by requiring Sund Mexico to incorporate environmental considerations into decision-making and operating activities, Sund headquarters was legitimizing environmentalism in Sund Mexico.

In turn, Sund Mexico was playing a similar role in its relationship to its vendors and employees. By including environmental criteria in the vendor certification process, Sund Mexico was legitimizing environmental concerns to its vendors. In addition, Sund Mexico was explicitly rejecting firms with poor environmental performance. Sund Mexico's focus on environmental issues added to other environmental pressures experienced by the vendor firms—be it from employees, neighborhood groups, or environmental interest groups. Sund Mexico's implementation of a voluntary environmental management code also legitimized environmental concerns in the eyes of its employees. The subsidiary was investing time and money into its environmental programs. In a business environment, human and financial resources are rarely wasted, but rather invested in meaningful programs. In addition, Sund Mexico's new environmental programs reached out to employee families. The company newsletter provided information about separating waste and recycling at home. Sund Mexico participated in a national recycling competition in which employees collected cardboard at home and used the Sund Mexico facility as a centralized drop-off site. The environmental education program was planned for 1998 included an Earth Day event for employees and families. Through these internal channels, Sund Mexico was communicating the importance of minimizing environmental impacts and legitimizing environmentalism to its employees and their families.

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opposition caused it to become a voluntary component of the program (Nash and Ehrenfeld 1997).

Finally, in the attempt to demonstrate the viability of self-regulation, firms create situations in which they self-regulate more stringently than legislation requires or they regulate aspects of their operations that are not regulated by government. Command and control regulation inspires public confidence because it sets equal standards for all firms. Under self-regulation, standard setting and compliance are more subjective. Therefore, standardization of environmental practice and environmental performance reporting is central to building a sense of confidence in firm environmental practice. The need for standardization is built into codes of environmental management practice, such as CMA's Responsible Care® and the ISO 14000 series. The Responsible Care® program has been described as "the most sophisticated and far-reaching regime of self-regulation to be found in the world" (Gunningham 1995, in Nash and Ehrenfeld 1997:498). Its stated objectives are to "promote continuous improvement in member company environmental, health, and safety performance in response to public concerns and [to] assist members' demonstration of improvement in their performance to critical public audiences" (Nash and Ehrenfeld 1997:500). Similarly, a press release announcing the ISO 14000 series stated that "among the expected benefits of ISO 14000 International Standards will be the creation of a reference framework in all the various areas concerned, by providing an international benchmark or method of evaluating protection of the environment" (ISO 1997). Initiated in the private sector, these codes constitute a quasi-public, quasi-private regulatory regime that blurs traditional boundaries between governments and firms.

The process of standardization inherent in these codes works against firm interests by creating standardized expectations for all firms. Industry leaders thus set standards according to which all firms are evaluated. The pressure of standardization even extends to those firms who do not adopt the voluntary codes of environmental management practice. Since the misdeeds of one firm are construed as an example of deceptive behavior by an entire industry, firms with progressive environmental programs have reasons to police and nurture firms with less developed environmental management systems (Piel 1996, Tombs 1993). Finally, the shift to a self-regulatory regime reintroduces the issue of mandatory public disclosure of environmental audit information. For a self-regulatory regime to be acceptable, firms must be able to provide reliable, consistent, and comparable environmental performance data.

Sund Mexico's entire environmental program is an example of the pressure of standardization. Although there have been changes in the Mexican regulatory system, the driving force behind Sund Mexico's changed environmental program was Sund headquarters' decision to implement an EMS based on the ISO 14001 series. The pressure of standardization was also experienced in developing individual components of an environmental program. In drafting the Sund Mexico environmental policy, the Environmental Affairs Coordinator relied on the corporate policy, policies developed by other subsidiaries, and a survey of other pharmaceutical companies' environmental policies for benchmarking purposes. The process exemplifies the extent to which ideas are pooled within a corporation and within an industry in the development of a company's environmental policy. This unofficial intra-industry consensus building contributes to establishing standardized

requirements for firm environmental responsibility. Moreover, it encourages inter-firm comparisons according to these standardized requirements. In Mexico City, a hierarchy had emerged among transnational pharmaceutical corporations. In helping to arrange interviews with environmental affairs managers, a senior staff person at Sund Mexico explained that one particular firm was openly acknowledged to have an outstanding environmental program. A competitor firm, on the other hand, was characterized by its poor environmental management.

Sund Mexico's vendor program also serves as a good example of the quasi-regulatory power of the new codes of environmental management practice. In Mexico, business relations between suppliers and vendors are not subject to government regulation. However, ISO 14001 mandates that firms monitor the environmental programs of their suppliers. In response to this guideline, Sund Mexico's supplier certification questionnaire was updated to include an environmental section used to disqualify suppliers that do not meet Sund Mexico standards. In sum, due to ISO 14001, Sund Mexico regulated one aspect of its operations that was previously unregulated.

4. Implications for Theory and Future Research

So what conclusions can be drawn about voluntary environmental management codes? Are they likely, in the short and longer term, to lead to tangible improvements in firm environmental practices? Green business advocates argue yes. Critiques of green washing argue no. From an organizational theory perspective, the evidence is mixed. A clear yes or no answer is only possible in a world that assumes organizations respond to fixed environments. In such a world, efficiency motives correspond to improvements in firm environmental performance. Legitimacy motives, on the other hand, imply that firms develop symbolic structures without necessarily changing operating practices. The Sund Mexico case demonstrates that both of efficiency and legitimacy motives apply, but with a twist. For Sund Mexico, the efficiency of its environmental investments depends on the likelihood of future compliance violations and thus the evolution of environmental regulation in Mexico, both of which are not completely beyond Sund Mexico's control. Likewise, Sund Mexico's legitimacy depends on the expectations of its customers, local community, employees, and the public at large, constituencies whose expectations Sund Mexico not only tries to satisfy but also actively tries to influence. The Sund Mexico case thus demonstrates that large enterprises with international reputations—i.e. the firms most likely to adopt a voluntary environmental management code—do not simply respond to their environments, but actively try to shape their environments.

Acknowledging that organizations and environments co-evolve adds a layer of complexity to understanding the nature and consequences of voluntary environmental management codes. Empirical studies that try to link environmental management codes to firm environmental performance assume a fixed environment and try to determine in efficiency or legitimacy is the driving force of firm behavior. Such studies

do not capture the extent to which voluntary environmental codes are tools intended to shape a firm's institutional environment. I argue that firms implement such codes in order to achieve three intended consequences. First, they help firms to reduce costs, to increase the efficiency of operations, to improve internal management, and, more generally, to increase the profitability of production. Second, it voluntary codes enable firms to harness the benefits of having a good environmental reputation. Such benefits may include improved relations with local communities, the ability to attract a high quality workforce, and increased sales and market share. Finally, firms are implementing the voluntary environmental management codes as part of a strategic effort to offer an alternative to command and control government regulation and to dull the environmentalist critique of firm practices. Moreover, embedded in the process of implementing these codes are three unintended consequences. The first unintended consequence is the creation within a firm of vested interests in environmentalism. Implementing an EMS is a complex and time-consuming process involving all firm employees. Therefore, its implementation often results in the creation of an environmental affairs department and the establishment of employee environmental education programs. The second unintended consequence affects how firms manage information. Building relationships with local communities forces firms to share information about their environmental performance. The increased openness constitutes a redefinition of the boundaries separating the firm from the public. The third unintended consequence of implementing an EMS is the blurring of state-private boundaries. In the effort to offer an alternative to government regulation, firms are inadvertently imposing a regime of self-regulation that is more stringent, in some areas, than government regulation. Moreover, firms are investing significant human and financial resources into their internal environmental programs and external environmental marketing campaigns. The intention behind these investments is, in part, to co-opt the ideological power of environmentalism. Inadvertently, however, firms are joining environmentalists in speaking out on the importance of protecting the environment.

Certain aspects of both the intended and unintended consequences of implementing voluntary environmental management codes to imply the likelihood of tangible environmental benefits from the implementation of a voluntary environmental management code. At one level, the Sund Mexico case supports this conclusion. Sund Mexico's implementation of an EMS contributed financial, human, and institutional resources to protecting the environment. Implementing an EMS led the Sund Mexico Environmental Affairs Coordinator to identify efficiency improvements and cost-effective strategies for managing environmental pollution. The Sund Mexico facility realized savings through wastewater treatment and through the recycling of hazardous waste. In addition, the creation of the environmental affairs department in Sund Mexico institutionalized its commitment to environmentalism. By implementing an EMS, Sund Mexico committed itself to perpetuating its open-door policy with its neighbors. In Sund Mexico, implementing an ISO 14000-based EMS improved the facility's environmental programs in ways that government regulation had not. Unfortunately, a close analysis shows that such a positive view must be qualified.

First, the Sund Mexico case shows that profit is the underlying motive for implementing the EMS. Profit-based environmentalism is also encouraged in employees and communicated in environmental education programs. However, by definition, profit environmentalism is a restricted version of environmentalism. "Win-win-win" efficiency and recycling improvements are limited. Sund Mexico's emphasis on cost-effectiveness clearly indicates that in a conflict between profit and the environment, profit will emerge victorious. In addition, the expansion in the kinds of environmental management strategies considered profitable is motivated by individuals within firms searching out opportunities for profit environmentalism and by external interest in environmental issues. If either should waver, then the occurrence of profit-motivated changes in production will decline. Finally, if voluntary environmental management codes prove to be unprofitable, firms may simply abandon them.

A second caveat concerns firms' willingness to share information. Although the ISO EMS encourages open communication, it does not provide standards and guidelines about what types and how frequently information should be communicated. In its public environmental policy, Sund Mexico claimed to communicate openly with local communities. However, its internal communications policy advocated withholding information in certain situations. Sund Mexico's ambivalence about granting full information to the public is echoed in global debates over public access to internal environmental audit reports. None the codes of environmental management practice developed by industry require standardized, third-party-verified environmental performance reports. The double standard about access to information serves as a reminder that one purpose of voluntary environmental management codes is for firms to create and market an environmental image, regardless of their actual environmental practices.

Voluntary environmental management codes also create new areas of expertise in which only experts in ISO 14000 or EMAS can contribute to the discussion. Implementing an EMS at Sund Mexico is complicated, jargon-obscured process. Although input may be solicited from community members, environmental protection has the potential to become a technical project managed within a firm. This creation of expert knowledge has the potential to de-politicize environmental issues and reduce the voices of environmentalists and community members.

Self-regulation has advantages, but the Sund Mexico case suggests that in its current incarnation, industry self-regulation cannot replace government regulation. Sund Mexico is one of thousands of facilities implementing an EMS based on the ISO 14000 standard series. Of the codes of environmental management practice, ISO 14000 stands out as the least rigorous. Unlike CMA's Responsible Care®, which requires its members to continuously improve their *environmental performance*, ISO 14000 only requires continuous improvement of the *environmental management system.* Neither code sets any absolute or quantitative environmental standards, nor do they require public disclosure of audit results, which are two components of the Eco-Management and Audit Scheme (EMAS) (Nash and Ehrenfeld 1997). Of the various codes of

environmental management practice, ISO 14000 is one of the weakest and, not surprisingly, has the widest acceptance around the world. In addition, there are three levels at which to implement an ISO 14001 EMS. A firm may pursue full certification of an EMS by an independent, third party auditor and then may advertise its certified compliance under ISO 14000. Firms may also conduct a self-audit and self-certify compliance with the EMS principles. In this case, firms may not claim certification under ISO 14000. Finally, firms can simply base their environmental programs on the ISO 14001 guidelines. Sund Mexico is pursuing the third strategy, which means that Sund Mexico simply bases its environmental programs on ISO 14001 and does not actually certify compliance. The decision is justified in the Sund EMS framework manual as follows: "The current thinking is that Sund plant sites should not seek self-declaration or certification unless cogent business reasons compelled the expenditure of effort and money to achieve this level of formality at a particular site" (Sund 1997b:17).

Visiting the web site of any large corporation with an international reputation provides evidence of the growing popularity and implementation of voluntary environmental management codes over the past decade. After studying their intended and unintended consequences, it is my conclusion that these codes have neither a clearly adverse nor an obviously beneficial impact on environmental quality. Rather they are the most recent response by firms to the challenge of environmentalism to firm legitimacy and economic viability. Corporate environmentalism has both advantages and disadvantages in comparison to past firm environmental practices. For individuals interested in improving environmental quality, the challenge of corporate environmentalism is to encourage those firm behaviors that minimize environmental impacts while remaining aware of the weaknesses of voluntary environmental management codes as a system for protecting and enhancing the environment.

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