Greening the Firm

The Politics of Corporate Environmentalism

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1 Greening the firm: an introduction

Though environmental problems have challenged humankind since time immemorial, policy scientists have given serious attention to environmental issues only since the 1960s. A series of industrial accidents and media events such as the publication of Rachel Carson's *Silent Spring* (1962) highlighted the environmental consequences of unfettered industrialization. Responding to public concerns, from the 1970s onwards, the United States Congress has enacted a series of laws stipulating environmental standards and technologies for firms. These policies were often backed by zealous monitoring and enforcement. In the 1980s the policy community and the regulatees began articulating their dissatisfaction with the inefficiencies of command and control policies, specifically questioning the capacities of governmental agencies to implement detailed regulations.

Since the late 1980s, particularly after the Rio Summit of 1992, policymakers appear to have accepted that governmental coercion alone will not be sufficient in forcing firms to adopt environmentally sustainable policies; "right incentives" must be provided (Hahn and Nell 1982; Lee and Misiolek 1986; Baumol and Oates 1988; Oates, Portney, and McGartland 1989; Atkinson and Tietenberg 1991; Tietenberg 1992). More recently, policymakers are beginning to play down their adversarial role, and are highlighting the potential gains of collaborating with firms in developing and implementing environmental policies. Further, as opposed to a reluctance in implementing environmental laws, firms are increasingly inclined to adopt "beyond-compliance" environmental policies, the ones that are more stringent than the requirements of the extant laws and regulations.

Beyond-compliance initiatives could be designed and implemented by regulators, industry associations, or individual firms. For example, in recent years, the United States Environmental Protection Agency (EPA) has launched voluntary beyond-compliance programs such as Green Lights, Project XL, and 33/50. These initiatives are win–win–win for the regulators, firms, and citizens. Regulators are able to implement their

mandates to enforce environmental laws at low costs. This is particularly welcome in an era of declining budgets for many governmental programs and of calling for "reinventing government" (Osborne and Gaebler 1992). Citizens enjoy cleaner air and purer water without an increased tax burden. Firms enjoy greater operational flexibility in designing and implementing environmental programs that the command and control era denied to them. Their relationship with regulators also becomes less adversarial.

Regardless of whether regulators view firms as adversaries or as potential partners, as reluctant implementers of extant laws or as enthusiastic participants in beyond-compliance programs, environmental policy scientists have implicitly treated firms as unitary actors with similar responses to external incentives (notable exceptions include Fischer and Schot 1992; Gable 1994; Bunge, Cohen-Rosenthal, and Ruiz-Quintanilla 1995). As a result, there is an inadequate understanding of the internal processes that lead firms to adopt or not adopt various kinds of environmental policies, especially the beyond-compliance ones. In other policy areas and disciplines, however, firms have been "unpacked" and their internal processes extensively studied (March and Simon 1958; Baumol 1959; Cyert and March 1963; Marris 1964; Williamson 1964; Katz and Kahn 1966; Thompson 1973; also, Allison 1971). There is also a well-established literature on the impact of external factors on intra-firm dynamics (Cyert and March 1963; Pfeffer and Salanick 1978; DiMaggio and Powell 1983; Tolbert 1985; Oliver 1991).

In contrast to the existing environmental policy literature, this book examines the processes of environmental policymaking within firms. The *theoretical question* I address is: why do firms *selectively* adopt beyond-compliance environmental policies? Selective adoption implies that a given firm adopts only some but not all policies with similar characteristics, or different firms within the same industry respond differently to a given policy. This study argues that the existing explanations that focus exclusively on factors external to firms and that treat firms as unitary actors are under-specified to answer this question. An examination of intra-firm dynamics is also required. Though factors external to firms create incentives and expectations for managers, intra-firm politics influences how managers perceive and interpret external pressures and act upon them. My *policy question* therefore is: why and how do external factors aid or thwart supporters of beyond-compliance policies to persuade their firms to adopt these policies?

To examine these questions, I explore the following issues. How do managers make decisions on environmental policies? What are the decision criteria? Do managers have different preferences on environmental

policies and, if so, do such differences impact policy adoption? Are beyond-compliance policies adopted only if they are projected to deliver adequate levels of quantifiable profits? How are non-quantifiable benefits brought into the equation? Since answers to these questions vary within and across firms, the book investigates internal processes and inter-managerial interactions on environmental policymaking.

Beyond-compliance: an overview

Beyond-compliance is different from over-compliance. In the latter, firms seek to comply with the law but due to technological indivisibilities, deliver more than the legal requirement. Also, adopting uniform technologies across facilities that face varying environmental regulations results in over-compliance (Oates, Portney, and McGartland 1989). In contrast, beyond-compliance policies specifically propose to exceed the requirements of extant laws. They may involve modifying physical aspects of value-addition processes or adopting new management systems.

The profit-maximizing view of the firm predicts that firms will adopt policies that can be demonstrated, *ex ante*, to meet or exceed firms' profit criteria. Thus, from a managerial perspective, environmental policies can be classified along two attributes: (1) whether they meet or exceed the *ex ante* profit criteria as stipulated in capital budgeting or some other established investment appraisal procedure; (2) whether they are required by law or they are beyond-compliance. Based on these attributes, four modal policy types can be identified: Type 1 (beyond-compliance and meet or exceed the profit criteria), Type 2 (beyond-compliance but cannot or do not meet the profit criteria), Type 3 (required by law and meet or exceed the profit criteria) and Type 4 (required by law but cannot or do not meet the profit criteria). This discussion is summarized in table 1.1.

Since Type 3 and Type 4 policies are required by law, firms are expected to adopt them. This is especially true for industrialized countries where environmental laws are perceived by managers as being strictly enforced and penalties for non-compliance are significant. Consequently, most firms are not expected to systematically violate environmental laws. This book, therefore, does not focus on these policies.

Type 1 policies, though not required by law, are consistent with the profit-maximizing model of a firm since they meet the *ex ante* profit criteria. For example, scholars suggest that firms can increase profits by voluntarily reducing pollution (Porter 1991; Porter and van der Linde 1995; Shrivastava 1995; Hart 1995; Russo and Fouts 1997; for a critique, see Walley and Whitehead 1994; Newton and Harte 1996). Such policies enable firms to capture the "low-hanging fruit." It is also suggested that

Table 1.1. *Categories of environmental policies*

	Impact on Compliance	
Impact on quantifiable profits	Ensure compliance	Result in beyond-compliance
Established procedures to assess profitability are employed and the policy meets or exceeds their criteria	Type 4 profitable policies that are required by law; are implemented with low inter-manager conflict	Type 1 policies that involve profitable organizational changes with low inter-manager conflicts
Either established procedures to assess profitability cannot be employed, or if they can be, then they were not employed	Type 3 policies that are required by law; are implemented with low inter-manager conflict if there is stringent punishment for non-compliance and effective monitoring	Type 2 policies that involve inter-manager conflicts

such policies enable firms with greater consumer contact to compete on environmental quality and charge a premium (Arora and Cason 1996). Based on these arguments, these policies seem win–win for virtually every constituent. Of course, due to inertia or lack of knowledge about profit opportunities, firms may be slow to adopt them. Nevertheless, serious opposition within firms to such policies is not expected, and, consequently, this book does not examine them.

In contrast to Type 1, 3, and 4 policies, managers are expected to differ on the economic usefulness of Type 2 policies. This book, therefore, exclusively focuses on these policies. Literature identifies multiple motivations for firms to adopt Type 2 policies. The first category of explanations identifies strategic reasons geared towards potential long-term economic benefits. Firms could preempt and/or shape environmental regulations if they themselves adopt such policies (Fri 1992; Khanna and Damon 1999) and reap first-mover advantages (Nehrt 1998; Porter and van der Linde 1995; for a critique, see Palmer, Oates, and Portney 1995; Rugman and Verbeke 2000). Similarly, technologically advanced firms could raise the cost of entry for their rivals – the assumption being that higher standards will lead to stringent regulations (Barrett 1991; Maloney and McCormick 1982; Salop and Scheffman 1983).

The second set of explanations – sociological institutional theory and stakeholder theory – focus on non-profit objectives of firms that may or may not impact their long-term profit objectives. The institutional theory focuses on the impact of external institutions on the policies of firms

(Scott 1987; Zucker 1988; Oliver 1991; Meyer and Scott, 1992; Hoffman 1997). In contrast to neoclassical economics that privileges two institutions – markets and governments – institutional theory takes into account other social institutions as well. Questioning the atomistic accounts of organizational policymaking, it suggests that firms are not profit maximizers; their policies reflect external pressures for legitimacy. Of course, different institutions have varying capacities to influence firms. This theory would predict that firms adopt Type 2 policies in response to pressures from key external institutions and *managers would have little autonomy in this regard* (Hoffman 1997: 6).[1]

Neoclassical economics views the social objective of business is to maximize shareholders' wealth (Friedman 1970). In contrast, stakeholder theory suggests that firms should (and sometimes do) design policies taking into account the preferences of multiple stakeholders – stakeholders being "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman 1984: 46; Donaldson and Preston 1995; Clarkson 1995). Similarly, the literature on corporate social performance (CSP), responsibility, and responsiveness argues that firms have societal responsibilities other than the pursuit of shareholder wealth maximization (Preston 1975). CSP policies are adopted because they are the "right things to do." Firms could be reactive, defensive, accommodative, and proactive in dealing with them (Wartick and Cochran 1985; Carroll 1995; for a critique see, Wood 1991). It could be argued that since Type 2 policies represent proactive CSP, they are adopted by firms.[2] Of course, different stakeholders and institutions have different expectations; sometimes expectations may even be in conflict (Wood and Jones 1995). Thus, it is critical to examine how managers interpret these expectations and employ them to push their agendas on Type 2 policies.

Though institutional theory and stakeholder theory correctly identify non-profit and long-term (potential) profit reasons for adopting Type 2 policies, they inadequately explain *variations* in response – why do firms *selectively* adopt them? For example, why does firm X consider Policy A

[1] Oliver (1991) acknowledges that "agents" may have autonomy even in an institutionalist perspective.

[2] Scholars have examined whether CSP policies positively impact firms' financial performance (Ackerman 1975; Preston and Post 1975; Preston and Sapienza 1990; Jones 1995) and adopting a stakeholder approach furthers firms' economic performance (Cochran and Wood 1984; Barton, Hill, and Sundaram 1989; Kotter and Heskett 1992). These studies have been criticized on theoretical and methodological grounds. As a result, these literatures are inconclusive on the impact of adoption of CSP policies and/or stakeholder approach on firms' economic performance (Wood and Jones 1995; Griffin and Mahon 1997).

but not Policy B as "the right thing to do" although both policies have similar characteristics? Or, why does firm X but not firm Y believe that adopting policy A is the "right thing to do"?

This book draws insights from institutional theory and stakeholder theory and relates them to dynamics within firms. The point of departure is that I do not view managers as passive recipients of external pressures. Since "agents" have autonomy in the realm of Type 2 policies, explanations focusing on external "structures" only are under-specified (Child 1972; Granovetter 1985; Ostrom 1990). Further, managers do not have homogeneous preferences on Type 2 policies. The book focuses on the role of key managers in generating consensus or, if faced with opposition, lobbying the top management to mandate policy adoption. While not denying the importance of external factors, I highlight that in the context of Type 2 policies, managers have autonomy to interpret the impact of external pressures on the long term profit and non-profit objectives. Hence, intra-firm politics is important in explaining variations in adoption within and across firms.

"Unpacking" the firm

To understand internal policy processes, an explication of the notion of a firm is imperative. Neoclassical economic theory treats firms as unitary actors seeking to maximize profits (Hirshleifer 1988). The book interprets its broad message as that firms adopt only those policies and projects that can be demonstrated *ex ante* as potentially profitable. Project appraisal is a technical process and there is a shared understanding among managers about the legitimacy of established appraisal procedures, particularly capital budgeting. This procedure requires estimating future benefits and costs and discounting them with an appropriate discount rate. If a project meets or exceeds a given rate of return, it is deemed potentially profitable. Consequently, capital budgeting ensures that managers examine investment decisions objectively with a focus on maximizing shareholders' wealth. This is an important safeguard for shareholders who often have little say in the running of firms, and are therefore vulnerable to "agency abuses" by managers (Berle and Means 1932; Fama 1980). Further, since maximizing a firm's measurable profits is the primary objective for all managers, policy processes would be consensual. This is not to say that managers have identical preferences on environmental policies. Most likely they do not. However, different managerial preferences are not predicted to play out in the policymaking process because there is consensus that a policy should meet or exceed the profitability criteria.

Capital budgeting is appropriate to assess profitability of projects that

involve up-front capital expenditures and generate future cash flows. Since Type 2 policies may not involve capital expenditures, capital budgeting is inappropriate for assessing their profitability. In general, it is difficult to assess the impact on profits of policies that focus on establishing management systems, and hence do not generate revenue or decrease quantifiable costs. To assess the profit impact of Type 2 policies, managers employ subjective methods. Such projects are justified by some managers by arguments such as "they are good for the firm in the long run" and "they are important for keeping the EPA in good humor."

Further, some policies involving significant up-front capital expenditures may be adopted without being subjected to capital budgeting. This suggests that established procedures are not applied consistently and policymaking within firms involves a complex mix of factors. Intra-firm processes, inter-manager interactions, and managerial perceptions of external factors are important in influencing whether or not a Type 2 policy is adopted. Project appraisal is not a technical process only; organizational politics also plays an important role in influencing managerial perceptions of the desirability of a project.

The neoclassical notion of a firm is useful in predicting market outcomes in highly competitive markets or when policies are required by laws that are strictly enforced. It is not helpful in explaining why firms selectively adopt Type 2 policies. For this we need to examine the internal processes of firms. Treating firms as composites consisting of many managers, this book employs a new-institutionalist perspective. Further, it assumes that while maximizing quantifiable profits is often the preeminent goal of most managers, it is not the only goal. Managers also differ in their subjective assessments of the long-term profit impacts of policies. I classify managers into two categories: (1) policy supporters favoring the adoption of beyond-compliance policies whose profit impact is not quantified; and (2) policy skeptics who oppose such policies. There is a third category as well: policy neutral. Since they do not significantly impact policy dynamics, the book does not focus on them.

Within a new-institutionalist perspective, three broad theories of firms can be identified: transaction cost, power-based, and leadership-based. Transaction cost theorists examine an important question that is not adequately addressed by neoclassical economics: why do firms arise at all; alternatively, why and how do managers arrive at "make or buy" decisions? Following Coase (1937), transaction cost theorists view firms as institutions designed to economize on transaction costs by allocating resources through hierarchical fiats and not market mechanisms. Williamson (1975, 1985) focuses on how firms evaluate "make or buy" decisions, and suggests that these decisions reflect managers' desire to

minimize transaction costs given asset specificity, bounded rationality, and a potential for labors' opportunism. Transaction cost theories, however, do not specifically address my research question: why do firms selectively adopt beyond-compliance policies? Consequently, the book employs power-based and leadership-based explanations only to examine intra-firm dynamics. Importantly, both theories focus on the crucial role of organizational politics – especially the preferences, strategies, and endowments of key managers – in shaping policy outcomes.

There is extensive literature suggesting that managers are "boundedly rational," often have heterogeneous preferences, and are organized as coalitions that seek different policy objectives (Cyert and March 1963; Simon 1957). Since boundedly rational managers make decisions under uncertainty, decision making is often influenced by inter-managerial interactions. Employing these insights, this book suggests that beyond-compliance policies provide political space for "discursive struggles" (Hajer 1995) within firms on their long-term profit and non-profit impact. If such policies are adopted, it is by two kinds of processes: (1) power based, where policy supporters, in face of opposition from policy skeptics, "capture" the top management and have it mandate the adoption of such policies; (2) leadership based, where policy supporters succeed in inducing consensus, convincing policy skeptics and policy neutrals of the long-term benefits of such policies. It is important to differentiate power-based from leadership-based processes since they arise under different conditions and lead to different types of outcomes. In both processes, managers invoke the external environment in different ways to advocate their policy preferences. The final outcome depends on factors such as policy supporters' hierarchical position, their persuasive or canvassing abilities, their expertise in the issue area, and how they invoke external factors to shape perceptions of others. Policy outcomes would also be influenced by the degree of organizational change required for their implementation: the greater are the predicted changes, the stronger are the incentives for the "losers" to oppose policy adoption. Consequently, the likelihood of policy adoption decreases.

In examining beyond-compliance policies, the book first employs the neoclassical theory: can the profitability of a beyond-compliance policy be assessed by employing capital budgeting? If this theory does not hold (that is, capital budgeting was either inapplicable, or, if applicable, it was not employed), then I turn to power-based or leadership-based theories. Policy processes marked by imposition are classified as power based, and the ones marked by induced consensus as leadership based. The key actors, policy supporters and policy skeptics, are identified and their positions in the hierarchy, and their strategies and logics for supporting or

opposing a policy are examined. Since preferences are inferred from behaviors, the book does not examine why policy supporters or policy skeptics have certain preferences. However, it seeks to understand whether policy adoption requires significant levels of organizational changes that upset the status quo, thereby creating incentives for "losers" to oppose a policy. It also examines how factors external to firms support or impede the efforts of policy supporters.

In summary, the theoretical contributions of this study are fourfold. First, it highlights the inadequacy of the neoclassical theory in explaining why firms selectively adopt Type 2 policies. Second, at a broad level, it argues that "agents" have some (not complete) autonomy in pursuing beyond-compliance policies; external "structures" alone cannot provide fully specified explanations. Third, it focuses on the important role of power-based and leadership-based processes in shaping the policies of firms. It argues for "bringing back leadership" in the study of political economy. Further, the book integrates insights from sociological institutional theory and stakeholder theory (that focus on pressures external to firms) with leadership-based and power-based theories. Finally, since the conclusions of this book are generalizable to other issue areas where firms adopt Type 2 policies (often subsumed under social policies), it outlines important questions for future research.

Research designs and methods

At an empirical level, I focus on two firms – Baxter International Inc. and Eli Lilly and Company – and study their key environmental programs during 1975 to mid 1996. Both Baxter and Lilly are multinational enterprises (MNEs). Since MNEs are important economic actors, they have critical roles in environmental policymaking and implementation (Walters 1973; Pearson 1985; World Commission on Environment and Development 1987; Leonard 1988; World Bank 1992; Schmidheiny 1992; Choucri 1993; Jaffe, Peterson, Portney, and Stavins 1995; Prakash, Krutilla, and Karamanos 1996). Therefore, one objective of many environmental policies is influencing the environmental performance of MNEs. This requires an understanding of how MNEs make environmental policies. Unfortunately, there is little literature on this subject as most environmental policy scholars treat MNEs (or any firm for that matter) as unitary actors.

This study focuses on environmental policymaking in the US operations of Baxter and Lilly. It does not study environmental policymaking in their subsidiaries outside the US. For most MNEs operating in industrialized countries, compliance with domestic environmental regulations is

often a non-issue though previously many have resisted complying with laws. I attribute such compliance to stringent laws specifying significant civil and criminal liabilities, relatively serious implementation of environmental laws by regulatory bodies and the courts, active monitoring by environmental groups and local communities, and pressures from employees to "go green." The battle within most firms is now being fought in a different arena: to what extent, if at all, should firms go beyond minimum regulations?

Why Baxter and Lilly? According to the largest ever survey of MNEs' environmental programs, these policies are significantly influenced by MNEs' line of business, sales volume, and home country (UNCTAD 1993). These factors are briefly discussed below.

The line of business The high-risk industries as well as the "sunrise" industries have the strongest environmental programs. High-risk industries such as oil and chemicals have extensive environmental programs because a single industrial accident can inflict significant costs on them. Since sun-rise industries such as electronics, biotechnology, and specialty chemicals have quick product obsolescence, they replace their capital equipment in short cycles. Consequently, they are afforded opportunities to install state-of-the-art, resource-efficient technologies. Further, their high profitability provides them with resources for investing in environmental programs that often have long gestation lags.

The size of MNEs Large MNEs (sales of $4.9 billion and above) have more comprehensive environmental programs than the smaller MNEs because they can tap economies of scale on such expenditures.

The home country of the MNE The scope and content of environmental practices vary significantly across regions. The UNCTAD survey notes that:

> [P]robably the nature of the regulatory environments in the home country of the corporation explains variations. . . . The tendency of Asian corporations [that is, Japanese] to view EH&S [Environmental Health and Safety] activities as business opportunities could be related to the fact that Japanese EH&S policy is formulated to a large extent by the Ministry for International Trade and Industry and not the Environmental Agency. The relatively low utilization of EH&S policies and practices in Europe is probably related to the fact that European environmental regulations tend to rest on administrative enforcement and cooperation between industries. On the other hand, United States' environmental regulation has traditionally been described as adversarial and aggressive, and seems to have encouraged the TNCs [transnational corporations] to establish EH&S procedures to minimize liabilities. (1993: 93)

I have controlled for the three factors identified by the UNCTAD report. Baxter and Lilly share the following characteristics:

(1) Their annual sales exceed $4.9 billion ($9.3 billion for Baxter and $6.7 billion for Lilly in 1995).[3]
(2) They are in the health-care industry.
(3) The United States is their home country.

In addition, these firms are:

(4) significantly globalized (in 1995, the non-US operations accounted for 42.5 percent of Lilly's sales and 28.2 percent of Baxter's sales); and
(5) formally committed to adopting beyond-compliance environmental policies (Baxter 1994a; Eli Lilly 1994a).

At an empirical level, this book examines ten cases of Type 2 policymaking: four common to both firms (underground tanks, 33/50, ISO 14000, and environmental audits), and one each idiosyncratic to them (Responsible Care to Lilly and green products to Baxter).[4] The cases that are briefly described below pertain to policymaking during 1975 to mid 1996.

Underground storage tanks

Underground storage tanks can contaminate soil and ground water creating significant clean-up costs. Consequent to the EPA's regulation in 1985, both Baxter and Lilly removed their existing single-walled underground tanks and installed new tanks that have significant beyond-compliance features. I examine why these firms invested huge amounts of money in beyond-compliance features: about $10 million for Baxter and $30–40 million for Lilly.

Toxic Release Inventory and EPA's 33/50 program

Both Baxter and Lilly took significant beyond-compliance initiatives to reduce their releases of chemicals listed under the Toxic Release Inventory program (TRI). Lilly has invested about $80 million for reducing its releases of TRI chemicals and Baxter has invested about $10

[3] On October 1, 1996, Baxter announced that it had reorganized itself into two corporations: Baxter International Inc. and Allegiance Corporation. Baxter International Inc. focuses on developing medical technologies and Allegiance Corporation focuses on supplying medical and laboratory products (Baxter 1997). Since I am studying environmental policymaking in Baxter and Lilly during 1975–mid 1996, Baxter's reorganization does not affect my research design or analysis.

[4] In chapter 5, external and internal environmental audits as well as Phase I and II of Responsible Care are examined separately.

million for reducing its releases of TRI chemicals, air toxics, and chlorofluorocarbons.

33/50 is a voluntary beyond-compliance program launched by the EPA in 1991. Firms are encouraged to commit to reducing aggregate releases of seventeen specific TRI chemicals, 33 percent by 1992 and 50 percent by 1995 with 1988 as the baseline. Both Baxter and Lilly are charter members of this program and both have exceeded their 1995 objectives.

Chemical manufacturers association's responsible care

The US Chemical Manufacturers Association (CMA) launched Responsible Care in 1988. Under this program, the CMA's member firms are asked to adopt a series of beyond-compliance policies. This case focuses on Lilly only. After initial hesitation on some aspects of this program, Lilly adopted Responsible Care and now is a show-case example of its successful implementation.

"Green" products

Both Lilly and Baxter have adopted a variety of beyond-compliance policies to "green" their manufacturing operations and management systems. However, only Baxter markets green products, the ones that explicitly promise environmental protection as one of their benefits. Given the nature of Lilly's business of manufacturing and marketing ethical or prescription drugs, green products have little business rationale.

Environmental audits

Though there is major controversy over granting attorney–client privilege to environmental audits, both Baxter and Lilly have established strong internal audit programs. In addition, Baxter invites external auditors to evaluate its environmental programs. In 1991, Arthur D. Little was invited to help in defining the state-of-the-art environmental standards and in evaluating whether Baxter's environmental program met those standards.

International Organization for Standardization's ISO 14000

The ISO 14000 series specifies beyond-compliance management systems. These standards have been sponsored by the International Organization for Standardization, a Geneva-based non-governmental

organization. ISO 14000 could be viewed as an industrial code of practice that needs to be certified by external auditors. This certification is done at facility level. Currently, such certification is estimated to cost about $20,000 per facility. Neither Baxter nor Lilly have mandated that their facilities should have the ISO 14000 certification; they have adopted a wait-and-see policy. This could be attributed to their extant investments in other industrial codes (Responsible Care for Lilly and the state-of-the-art program for Baxter), and meager perceived gains from switching over to ISO 14000.

Information on these cases was gathered from the following sources: interviews with managers (both in-service and retired), attendance as an observer in meetings of various environmental teams, review of published as well as unpublished documents, and professional journals. Most managers in these firms have been extremely cooperative in sharing information and have not attempted to influence my interpretation of events. However, to maintain confidentiality of my sources, this book does not identify them in any manner, except when quoting from a published document.

Case selection

In examining the above cases, I define the dependent variable as the adoption or non-adoption of Type 2 policies, and the independent variables as factors internal and external to firms. The internal factors include: whether a policy required up-front capital expenditure or whether it involved establishing management systems; the level of expenditures; and the degree of organizational change required to implement a policy. Some of these policies involved significant capital expenditures (underground tanks and 33/50, in particular) and could therefore have been subjected to capital budgeting. Other policies involved establishing management systems (Responsible Care and ISO 14000) whose financial impact cannot be quantified. In addition, the degree of organizational change required for implementing such policies also varied: "minimal" for underground tanks and "significant" for external audits.[5]

To understand the roles of external factors, the book focuses on the managerial perceptions (and how they were shaped) of the abilities of such organizations to impose excludable costs or provide excludable

[5] Minimal changes involve only operational-choice level while significant changes involve collective- and constitutional-choice levels. I discuss the three levels of institutional analysis (operational-, collective-, and constitutional-choice) in chapter 5.

Table 1.2. *Cases and their dimensions*

	External factors encouraging or discouraging this policy	Time period	Scope
Underground Tanks	Encouraged by Environmental Protection Agency	Mid 1980s–late 1980s	Firm
TRI and 33/50	Encouraged by the Environmental Protection Agency	Late 1980s–early 1990s	Manufacturing industry
Responsible Care	Encouraged by Chemical Manufacturers Association	Late 1980s	Chemical industry
"Green Products"	Encouraged by health-care providers, such as hospitals	Early 1990s	Firm
Environmental audits	Discouraged by the Environmental Protection Agency; encouraged by state environmental agencies	Early 1990s–mid 1990s	Firm
ISO 14000	Encouraged by a Geneva-based non-governmental organization	Mid 1990s	All Industries

benefits to firms and to individual managers. The following external factors are examined: governmental agencies (the EPA), non-governmental international organizations (the International Organization for Standardization); industry-level associations (the CMA), and customers (hospitals).

As shown in table 1.2 above, these cases also pertain to different time periods: from the mid 1980s (underground tanks) to mid 1996 (ISO 14000). They also represent policy initiatives at different scales of aggregation: specific to a firm (underground tanks), specific to chemical industry (Responsible Care), specific to manufacturing firms across industries (33/50), and impacting virtually all firms in the economy (ISO 14000).

Following King, Keohane, and Verba (1994), I have selected the cases to ensure variations on independent variables. They also advise that with a small sample size, researchers should consciously ensure variations on the dependent variable as well. As a result, the book also examines four cases of non-adoption (ISO 14000 in Baxter and Lilly; external audits in Lilly, and Phase I of Responsible Care in Lilly) though it primarily focuses on cases where Type 2 policies were adopted.

Organization of the book

The study is organized into five chapters, including this introductory chapter. Chapter 2 presents the theoretical foundation, focusing on the

new institutionalist perspective and power-based and leadership-based theories of firms. New-institutionalists focus on two broad sets of questions. First, how do institutions evolve and, second, how do institutions affect collective outcomes? This book focuses on the first question only: how do Type 2 policies – a specific genre of institutions in the context of firms – evolve and how can power-based and leadership-based policies explain their selective adoption? Chapter 3 provides a brief overview of the activities of Baxter and Lilly, and describes and compares the evolution of their environmental programs from 1975 to mid 1996. Chapter 4 examines ten cases of Type 2 policies and explores processes leading to their adoption or non-adoption. These processes are examined by employing power-based and leadership-based theories. Chapter 5 discusses the theoretical and policy implications of this book, its limitations, and issues for future research.