

Toward Sustainable
Communities

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The Three Epochs of the Environmental Movement

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Since the onset of the modern environmental movement, a great deal has been learned about our ability to direct economic activity, affect human values and behavior, and create a more livable and sustainable world through public policy and government action. The United States has been one of the important crucibles of this learning, with a growing awareness of the interrelationships among social, economic, and environmental systems and the difficulty of changing one without affecting the others in ways both anticipated and not.

A great deal has been accomplished over the past decades through the regulatory enforcement of the range of national environmental laws and policies adopted in the 1970s and 1980s in appreciably reducing air, water, soil, and other environmental pollutants and health risks, on a per capita basis and in total across the nation. Yet it is also true that these gains *are likely to be* short-lived as greater amounts of fossil fuel energy and materials are consumed by an ever growing population and as additional threats to the environment become more prominent—such as the buildup of greenhouse gases, deterioration of the stratospheric ozone layer, rapid decline of species of plants and animals, and depletion of nonrenewable natural resources. Moreover, curbing harmful development and human expansion in one location—a pristine coastline, wetlands, a unique landscape, or an endangered species habitat—does not prevent it from surfacing somewhere else. And that somewhere need not be in North America, but anywhere on the globe, as the world's population grows from 6.7 billion today to 9 billion or more by 2050.

Important politically, the extensive effort by the United States to clean the nation's environment since the 1970s has come at times at the price of economic growth for business and industry, and it has contributed to the migration of some industries from one region to another within the

nation and to other countries. Establishing and implementing the nation's environmental laws and regulations also has led to the creation of substantial federal bureaucracies, which can frustrate as much as help remedy environmental problems (Durant, Fiorino, and O'Leary 2004; Eisner 2007; Rosenbaum 2008; Vig and Kraft 2006).

Today, therefore, the decades-long national regulatory policy framework for environmental protection in the United States is undergoing significant reassessment on three fronts. One is its overreliance on command-and-control regulation, which despite notable achievements in the past can no longer be the only or perhaps even the major strategy for achieving environmental sustainability as we look further into the twenty-first century. Among the most important limitations of traditional regulatory policy is its high cost to business and governmental enforcement agencies, its emphasis on remedial rather than preventive actions, and its complex, cumbersome, and adversarial rule-making processes. These weaknesses have proven to be especially significant during times of economic stagnation and diminishing budgetary resources.

Second, national environmental policy often leaves both industry and state and local governments without the flexibility and incentives to achieve environmental quality objectives. Critics argue that the federal Environmental Protection Agency (EPA) often has been unsuccessful at priority setting and program management as it has struggled to balance competing needs and operate within a contentious political environment (Fiorino 2006; Vig and Kraft 2006). Perhaps not surprisingly, management failures and political gridlock at the national level have stimulated considerable policy innovation at the state and local level, an intriguing development that most of the chapters in this volume recount in some detail (Rabe 2006, 2007; Klyza and Sousa 2008).

The third limitation of the regulatory approach is, ironically, its neglect of the broader goal of sustainable development. In the flurry of action by the federal government to develop policies for specific air, water, and other pollutants and to address some of the more visible resource problems, no strategies or policies were developed for working across policy domains, from air and water pollution to energy, agriculture, construction, transportation, land use, and urban planning, in a more comprehensive approach that would simultaneously provide pollution reduction while fostering economic development and quality of life. Even today, while the need to develop a more comprehensive and forward looking strategy is recognized, this task remains beyond the scope of the nation's

environmental protection policies, which were largely set down in the 1970s and 1980s, and largely beyond the capacity of the EPA and other federal agencies that are charged with implementing the nation's environmental programs.

As a consequence of being overlooked initially and largely ignored at the national level by Congress and most presidents since the 1970s (with the noted exception of the Clinton administration's effort to foster a dialogue on sustainable practices), the environmental and sustainability movement in the United States has shifted its attention to the subnational level. In doing so, it has recognized that national regulatory strategies that require direct government enforcement, while serving as an important legal and policy framework, need to be complemented with a myriad of public-private and collaborative strategies that bring communities together in pursuit of their common interests in a better future. Many of the most promising sustainability efforts today, albeit unnoticed by the national political establishment in Washington and the nationally oriented media, can be found in the growing application of new approaches at the state, regional, and city levels of government, among the rapidly growing green business and industry entrepreneurs, green industry investors, and nonprofit groups and individuals as they strive to transform themselves and their communities (Coglianese and Nash 2006; Esty and Winston 2006; John 1994, 2004; Morgenstern and Pizer 2006; Portney 2003).

Despite the many obstacles that will need to be addressed in scaling up these experiences to the national level, the lessons being learned at the subnational level demonstrate the potential and promise of sustainable communities as the path of the future. We consider these subnational collaborative, private, and nonprofit sector efforts, especially the adoption of new and more integrated approaches to sustainable growth and development, as beacons for the future and thus make them the primary focus of our attention.

In essence, we believe that American society is reaching a crossroads with respect to environmental protection in several senses of the term and needs to take stock of where it has been and reset its path for the future. Continuation of the environmental regulatory approach initiated in the early 1970s is no longer a sufficient or feasible strategy for realizing the longer-term and more transformative goals of environmental sustainability. Furthermore, the lesson of many years of work in the field leads back to one of the oldest adages of the environmental movement, which

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is to think and plan globally but act locally. Be it global issues like climate change or local ones of drinkable water, clean air, and nonpolluting industry, acting locally requires mobilizing the capabilities of a broad cross-section of actors across not one but many local communities. Only in this way can the issues of a community's size and scale, together with its human needs and unique culture and ecological features, be adequately molded into an enduring and sustainable future and serve as a model for the nation.

As noted, there has been extensive criticism of centralized command-and-control environmental policy as being too costly, bureaucratic, narrow, and overzealously pursued (e.g., Davies and Mazurek 1998; Eisner 2007; Fiorino 2006). These indictments, though understandable, provide little help in identifying the roots of policy failure and the right direction for the future. It is rather remarkable, actually, that after forty years of the modern environmental movement we have very few systematic assessments of the dozens of policies and hundreds of programs of environmental protection being overseen by the EPA and the fifty states (Harrington, Morgenstern, and Sterner 2004; Knaap and Kim 1998; Press 2007). It has been similar with respect to the principles and policies being adopted on behalf of sustainable development. Although the philosophy of sustainable development has been embraced not only by environmentalists but by a growing segment of business and community leaders, the principles have remained mostly untested. Why this is the case will become more evident in the chapters to follow.

With this as our backdrop, the purpose of this book is to help readers understand the potential of, and thoughtfully engage in the theoretical and practical discussions of, the challenges inherent in moving from a regulatory strategy of environmental protection to one based on principles of sustainability. We believe the best way to do this is to learn from and build on local and regional experiences in sustainability efforts in moving toward a national consensus and policy strategy on sustainable development for the United States.

The chapters that follow in this first section of the book (Part I) focus on the evolution of thinking and understandings of the term sustainability, in chapter 2, and in chapter 3, on the most recent and fully developed practical alternative to command-and-control government regulation, commonly called results-based environmental governance. The change in philosophy in how we govern that is implicit in this new approach and the substantial change in political behavior it will require

represent an important step beyond the limitations of the conventional, centrally managed regulatory approach set in place in the early days of the modern environmental era. Following these discussions, Part II provides intriguing examples of policy experiments in air, land, and water that have begun to move beyond the regulatory approach, into what will be characterized as the second environmental epoch (discussed below). Part III focuses on the more recent generation of policy approaches and community and regional pilot programs and experiments across the public, private, and nonprofit sectors in sustainability that are pointing the way to the future, raising the specter of a second fundamental transformation in the modern environmental movement.

Organizational and Conceptual Overview

Focus on Environmental Epochs

What history tells us is that the response to most environmental problems, whether successful or not, evolves through an organic process of trial, error, and societal learning. It is clear in retrospect that there has been an evolution in the way people think about and frame the issues of environmental protection, and the strategies and policy tools used to address them. To make sense of the present while anticipating the future, it is essential to understand this progression. The progression, which has been incremental when viewed close up and day-by-day, can be more readily and usefully understood when viewed over the course of multiple decades, and, as we believe, as a small number of distinct though overlapping epochs. Each epoch is characterized by a dominant way of defining "the" environmental problem (comprising both a scientific and value component), which in turn leads to a set of policy goals, the use of certain implementation strategies, and other features that must be considered together to capture the essence of the epoch.

Understanding the historical sequence or evolution of these epochs is important also in that policy actors in each learn from the ones that preceded it, ultimately overshadowing (in terms of dominant ideas and focus) and overlaying them (in terms of policies and programs) yet never fully replacing them—along with all the confusion and complexity such progression leads to. Like a good map, the epochs approach attempts to outline the key features of the landscape and show the links between past and present, while indicating how each is distinct in some fairly

Part I
book

Table 1.1
From Environmental Protection to Sustainable Communities

	Regulating for Environmental Protection 1970–1990	Efficiency-Based Regulatory Reform and Flexibility 1980–2000s	Toward Sustainable Communities 1990–present
Problem Identification and Policy Objectives	<ul style="list-style-type: none"> • pollution caused primarily by callus and unthinking business and industry • establish as national priority the curtailment of air, water, and land pollution caused by industry and other human activity 	<ul style="list-style-type: none"> • managing pollution through market-based and collaborative mechanisms • subject environmental regulations to cost-effectiveness test • internalize pollution costs • pursue economically optimal use of resources and energy • introduce pollution prevention • add policies on toxic waste and chemicals as national priorities 	<ul style="list-style-type: none"> • bringing into harmony human and natural systems on a sustainable basis • balance long-term societal and natural system needs through system design and management • rediscovery of/emphasis on resource conservation • halt diminution of biodiversity • embrace an eco-centric ethic
Implementation Philosophy	<ul style="list-style-type: none"> • develop the administrative and regulatory legal infrastructure to ensure compliance with federal and state regulations 	<ul style="list-style-type: none"> • shift to state and local level for initiative in compliance and enforcement • create market mechanisms for protection of the environment 	<ul style="list-style-type: none"> • develop new mechanisms and institutions that balance the needs of human and natural systems, both within the U.S. and around the globe • focus on outcomes and performance
Points of Intervention	<ul style="list-style-type: none"> • end of the production pipeline • end of the waste stream • at the point of local, state, and federal governmental activity 	<ul style="list-style-type: none"> • the market-place, which serves as the arbiter of product viability • provide education and training at several points along the cradle-to-grave path of materials and resource use 	<ul style="list-style-type: none"> • societal level needs assessment and goal prioritization • industry-level attention to product design, materials selection, and environmental strategic planning • individual behavior and life-style choices
Policy Approaches and “Tools”	<ul style="list-style-type: none"> • policy managed by Washington, D.C. • command-and-control regulation • substantial federal technology R&D • generous federal funding of health and pollution prevention projects 	<ul style="list-style-type: none"> • policy managed more by states and affected communities • federal role shifts to facilitation and oversight • introduction of incentive-based approaches (taxes, fees, emissions trading) for business and industry • creation of emissions- trading markets 	<ul style="list-style-type: none"> • comprehensive future visioning • regional planning based on sustainability guidelines, • Total Quality Environmental Management (TQEM) and life-cycle-design practice in industry • various experiments with new approaches
Information and Data Management Needs	<ul style="list-style-type: none"> • firm-level emissions • waste stream contents and tracking • human health effects • environmental compliance accounting in industry 	<ul style="list-style-type: none"> • costing out environmental harms and benefits of reduced pollution • provision of readily accessible emissions data (e.g., through Toxics Release Inventory and right-to-know programs) 	<ul style="list-style-type: none"> • sustainability criteria and indicators • eco-human support system thresholds • region/community/global interaction effects (e.g., regarding CO₂ emissions and depletion of ozone layer)

Table 1.1
(continued)

	Regulating for Environmental Protection 1970-1990	Efficiency-Based Regulatory Reform and Flexibility 1980-2000s	Toward Sustainable Communities 1990-present
Predominant Political/ Institutional Context	<ul style="list-style-type: none"> rule of law adversarial relations zero-sum politics focus on national regulatory agencies and enforcement mechanisms 	<ul style="list-style-type: none"> professional protocols for environmental accounting in industry ecosystem mapping alternative dispute resolution techniques greater stakeholder and public participation, especially, at the state and local level reliance on the market place 	<ul style="list-style-type: none"> utilization of ecological footprint analysis use of material and energy "flow-through" inventories and accounting computer modeling of human-natural systems interactions public/private partnerships local/regional collaborations community capacity building and consensus building mechanisms created to enforce "collective" decisions
Key Events and Public Actions	<ul style="list-style-type: none"> Santa Barbara oil spill Earth Day passage of the 1970 CAA and 1972 CWA passage of National Environmental Policy Act creation of the Environmental Protection Agency 	<ul style="list-style-type: none"> Carter administration focus on cost of environmental regulation election of President Ronald Reagan Love Canal, Bhopal RCRA and SARA growth in state and local environmental policy capacity 	<ul style="list-style-type: none"> Brundtland report, <i>Our Common Future</i> Earth Summit (UNCED) Montreal Protocol on CFCs, Kyoto Protocol adoption Intergovernmental Panel on Climate Change, series of reports Hurricane Katrina

fundamental ways. The focus on epochs also enables us to stand back from the details and narrow views that come with everyday life and grasp the overall features of the environmental movement at each major juncture in its history.

Finally, there has been dramatic growth in understanding about the environment over the past four decades, with each epoch bringing into clearer focus the interdependence of human and natural systems—and nation-states, continents, and civilizations—and the ultimate limitation of the Earth's ability to sustain infinitely expanding human populations and levels of material consumption. Understanding the "map" of the first two epochs of the modern environmental movement, combined with the growing awareness of the threats to the health of the natural environment at home and around the world, is the basis for our forecast of the epoch to come, viewed from today's vantage point on the cusp of the transformation to a more sustainable civilization. We believe that it is both necessary and likely that the United States will move to a more enduring and sustainable epoch in which concerns for the natural environment and how it relates to all other aspects of our economic and social worlds will play a far more pronounced role in policymaking. We also expect that the transition will occur at widely varying rates and in different forms from one region of the nation to another and across communities.

Table 1.1 presents the three epochs around which the book is organized, beginning largely in the early 1970s with the rise of environmentalism as a social and political movement in the United States and the buildup of the system of federal command-and-control environmental regulation, with its hallmark clean air, clean water, toxics and hazardous waste legislation, creation of the U.S. EPA, and strong federal presence. The third epoch brings into focus the potentiality of sustainable development and sustainable communities as we project further into the twenty-first century. While the movement is global in scope, as are some of the critical issues such as climate change and the overfishing of the world's oceans, our focus will be on how the movement is unfolding in the United States. The second epoch is transitional in several notable respects. It has been marked by the drive for efficiency and flexibility in the regulatory apparatus created in the first epoch. Its rhetoric and politics have been dominated by those with business and property holdings who have seen themselves adversely affected by the generation of environmental laws of the first epoch. Future historians will likely characterize this second

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epoch as one of bridging. Table 1.1 provides an overview and highlights the critical dimensions of the three epochs and major differences among them in problem identification and policy objectives, implementation philosophies, points of intervention, policy "tools," data and informational needs, political and institutional contexts, and key events and public actions. We believe these features define and differentiate the epochs from one another, and in combination gives each its overall meaning.

We should reiterate that the development of the second and third epochs has not meant the end of the first epoch. Indeed, most environmental policy scholars and practitioners acknowledge that the federally driven command-and-control regulation of epoch one continues to dominate U.S. environmental protection efforts. Many argue as well that the maintenance of some degree of stringent regulation is essential for certain reforms—such as regulatory flexibility or use of market incentives—to work well (Eisner 2007; Fiorino 2006). Yet we believe that the various critiques of the 1970s-era policies, and the reforms based on those critiques, constitute a transitional epoch by themselves, which is ongoing, and that yet another epoch has begun to evolve even as these policy dialogues and experiments continue. In short, the ideas of epoch two and three have been laid on the foundation of epoch one, so far without fundamentally transforming it. Indeed, well into the early twenty-first century, the nation has yet to see the emergence of a new generation of environmental policy, despite many calls for such a transition. Yet one can nonetheless find its seeds in a rich and diverse assortment of activities, particularly at local, state, and regional levels. It is these activities and their implications that we want to explore.

To do so, we seek to present a mapping of each epoch and to explore how useful the mapping framework is in illuminating the critical dimensions of each epoch as they reveal the continuing evolution of the environmental movement. To do this, we have asked several prominent environmental policy scholars and keen observers to contribute, bringing to bear their knowledge of either an important thematic issue—for example, the meaning of sustainability, the need for new governing institutions—or a community or policy arena where a substantive environmental issue is playing out—for example, with respect to air, water, land use, urban design—to assess how well the epochs approach helps illuminate their subject and helps us understand the dynamics in their particular case.

Problem Definition and Policy Objectives

The objective of the first modern environmental epoch was to place center stage the necessity of cleaning up America's polluted waterways, air, and land. Which business and industrial activities were responsible for the pollution was another matter, and was subject to a great deal of debate. For instance, were automobiles, industrial facilities, or climatological conditions the major source of urban air pollution? Whatever the cause, the solutions proposed were almost always costly and therefore contentious. What is clear is that during the first epoch a consensus emerged among scientists, technicians, policymakers, and the public that the issues of pollution and environmental degradation were severe and should be addressed as a top national priority. Despite the criticism that would eventually be heard about the cleanup effort prompted by this consensus, there is little question that the first environmental epoch produced significant improvements in air and water quality in the United States and made important gains in reducing the careless disposal of hazardous wastes and toxic chemicals (Portney 2000; U.S. EPA 2007, 2008; Vig and Kraft 2006).

In addition to policies aimed at specific pollutants, implementation of the National Environmental Policy Act of 1969, with its broad mandate for comprehensive impact assessment and public involvement in environmental policy decisions, spurred significant changes across federal and state bureaucracies. Protection of the nation's natural resources was advanced substantially during this era through new policies and federal mandates for protection of biological diversity and for the stewardship of public lands through what would come to be known as ecosystem management. These include the Endangered Species Act (1973), the Federal Land Policy and Management Act (1976), and the National Forest Management Act (1976), among others (Kraft 2007).

In the second epoch, the focus shifted from strict regulation to balancing environmental objectives with other social and economic priorities, with greater attention to human health effects, and to carrying out more efficiently those environmental policies that were on the books. In a few instances, goals were expanded, such as adding toxic materials and hazardous waste to the environmental policy agenda, the more demanding provisions of the Clean Air Act of 1990, and the greater recognition of the international and global ramifications of pollution. Overall, however, the pace of legislation and coverage of newly identified sources of pollution slowed appreciably in comparison with the first epoch.

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What changed most markedly was faith in the philosophy of regulation and strong control by the federal government. It became clear that government alone, especially the federal government, could neither direct nor police all businesses and every community across the nation; nor could it shoulder all the responsibility for stimulating innovative responses to environmental problems (Durant, Fiorino, and O'Leary 2004; Fiorino 2006). This was not simply a reaction to ever-growing government involvement. Underlying the second epoch was the recognition that appreciable progress had been achieved in reducing harmful environmental emissions and enhancing resource protection, in policy if not always in deed. After more than a decade of being front-page news, problems of the environment garnered less and less media attention. These changes occurred within the context of the growing conservative, antiregulation, and anti-federal government political tide that grew throughout the nation in the later part of the 1970s and 1980s, culminating in the Republican Party takeover of Congress in 1994. While this conservative tide was countered to an extent by the Clinton administration's pro-environmental stance, it reached its apex with the victory of President Bush and the conservative wing of the Republican Party in 2000 (Klyza and Sousa 2008; Vig and Kraft 2006).

The lessons of the first two epochs were not lost on those concerned with environmental pollution, the health of the population, and the nation's natural resource base. Although improvements were in fact being made to the nation's waterways, air sheds, and waste sites as a result of the strong, forceful, and aggressively enforced federal and state environmental laws of the first epoch, serious environmental challenges would remain and new ones continue to emerge. These include the loss of biological diversity, the need for habitat management and open space, the possible adverse effects of climate change, and the possibility of a population growth of nearly 50 percent, to some 439 million people in the United States by 2050, and what this implies for pollution and environmental protection.

The close linkage between human population growth, settlement patterns, and industrial activity and the degradation of the environment could not be ignored if permanent solutions were to be found. Problems of the environment were neither simple to address nor isolated from the pace and growth of other human activities, and they could be remedied only with determined, comprehensive, multigenerational efforts.

The realization by a growing number of individuals and opinion leaders from many walks of life that a fundamental transformation in the way Americans relate to the environment and conduct their lives is becoming the hallmark of the third environmental epoch. Pollution reduction, habitat restoration, and determining the most cost-effective methods for achieving these goals pale in comparison to the challenges of sustainability. Focusing on sustainability draws attention to the failure to incorporate into the building blocks of our economic activity in society—including the calculation of the nation's gross national product—measures of environmental health, quality of life, and the full effects of human settlement patterns on the land and the consumption of natural resources.

Significant debate and discussions on how best to incorporate these considerations into policy and action are central to the sustainability movement and to epoch three, as chapter 2 will underscore. For example, the advocates of ecological economics have long argued, in developing their measure of "genuine societal progress," that a more complete national accounting would reveal a downward trend in the genuine per capita level of wealth of Americans, a trend shift reaching back to the mid-1970s. Such assertions have been hotly contested in conventional economic circles. Moreover, the efforts to transform the way we account for the nation's wealth only begs the question of how the intuitively appealing yet vague idea of sustainability is to be defined and measured—and no simple answer has yet been found.

For some advocates, sustainability is understood as a desirable set of paradigmatic principles about patterns of consumption, energy use, pollution avoidance, and lifestyle changes to guide everyday action by individuals, business and industry, and communities from the smallest village to the largest of nations. For others, it is an ethical and moral imperative, even a theological creed for humans to live by—the simplest and possibly most encompassing definition of sustainability was provided by the World Commission on Environment and Development (Brundtland Commission 1987, 43): "meeting the needs of the present without compromising the ability of future generations to meet their own needs." What exactly constitutes needs and how to meet them are questions that remain open.

An important intergenerational ethical distinction has been made between "weak" and "strong" definitions of sustainability. In the former,

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the present generation has an obligation to pass on to future generations an average capital stock—of goods, services, knowledge, raw materials—that is equivalent to today's. In effect, taking all natural and human resources together, the current generation is obliged not to deplete the total stock. Although any given generation may deplete certain resources, as long as those can be replaced through human invention, the process is sustaining. The "strong sustainability" version, in contrast, says that certain natural stocks are essential ecological resources and building blocks for the much broader ecosystem (e.g., the ozone layer and biodiversity), and thus are inappropriate for averaging in with other kinds of assets (e.g., energy-efficient and low-polluting technologies). Not all assets are the same and, for the strong sustainability school, some natural resources and ecological processes are critical; they cannot be depleted below a certain level without dramatic ramifications for sustainability. Thus they cannot be easily averaged into an intergenerational balance sheet.

Ambiguity remains in the concept of sustainability and related concepts such as the "carrying capacity" of the planet. Nevertheless, there is growing recognition that human populations cannot expand indefinitely given the physical limitations of the Earth's land mass and resource base and human dependence on critical ecological processes. It is possible, however, to imagine a trade-off between the absolute size of the planet's population—or that of a town or community—and its energy and resources support systems. A population that consumes less per capita can sustain a larger size over time. For every combination of population size and average resource use there is a limit beyond which the capacity of ecosystems to sustain human beings breaks down. Determining where these thresholds lie is one of the central questions for analysis for the third epoch of environmentalism, as will be made clear in the following chapters.

Nov 15 Implementation Philosophy, Points of Intervention, and Policy Tools

Implementation philosophy goes to the heart of beliefs about how best to achieve agreed upon public policy goals (Mazmanian and Sabatier 1989), and these ideas heavily influence the points of intervention selected and policy tools adopted. Even when different groups and officials can agree on what they want accomplished, determining how best to do so may not be easy. Should people be coaxed or compelled to act a certain way? Should noncompliance be punished, and if so how severely? Should

emphasis be placed on educating people and providing them the wherewithal to change, or should they be expected to change their behavior, irrespective of costs or their level of awareness of alternatives, as a matter of law? Furthermore, the status, power, and public perception of the groups the legislation is intended to affect often have a great deal to do with the implementation philosophy adopted by political leaders and, in turn, what policy tools are utilized and where.

Seldom explicit, implementation philosophy is usually embedded in the mechanisms that Congress, state legislatures, and communities establish to carry out public policies. Their understanding of the problem and of how best to bring about the desired changes in people's actions are revealed in how they decide to assign various responsibilities. For example, they may assign a task to an existing federal, state, or local agency. Or they may create a new agency for the job, or assign it to an existing regulatory commission, or even assign it to a variety of public-private or even wholly private organizations. They may decide to criminalize certain kinds of behavior—such as disposing of hazardous waste on land—and invoke major penalties for violations, or they may make them minor violations with minimal penalties.

The implementation philosophy of the first environmental epoch was long on process and building new governing institutions, along with oversight of government activities as they affected the environment, but short on actually dictating the behavior of business, industry, and individuals. The signals were clearly mixed, but a combination of both "stick" and "carrot" was utilized.

Probably the most important feature of the first epoch's philosophy was that policy needed to be centralized in the hands of a new comprehensive federal agency: the U.S. Environmental Protection Agency. Given the level of state policy capacity at the time and the failure of most states to aggressively pursue protection of even their own environments, it was widely believed that if the nation's air, water, waste, land use, and related pollution problems were to be addressed successfully, it would have to be done under strong national, uniform guidelines and enforcement by a single agency, along with effective legislation in critical areas of concern. The most important "seven pillars" of environmental protection legislation from this era are highlighted in box 1.1. For this purpose we exclude the equally important natural resource policies adopted at about the same time, such as the National Environmental Policy Act of 1969. This core of environmental protection or pollution control statutes was