

**Sustainability**

## **It's Not Easy Being Green**

by Noah Walley and Bradley Whitehead

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For years, the goals of business and the environment seemed hopelessly irreconcilable. According to common wisdom, what helped one would almost certainly harm the other. Yet nearly a decade of “green” initiatives in the world’s corporations has given rise to a more optimistic mind-set, which promises the ultimate reconciliation of environmental and economic concerns. In this new world, both business and the environment can win. Being green is no longer a cost of doing business; it is a catalyst for constant innovation, new market opportunity, and wealth creation.

## **On Business and the Environment**

The Corporate Response to the Environmental Challenge  
Amsterdam: McKinsey & Company, 1991. Environmental ...



Everyone from Vice President Al Gore to Harvard Business School Professor Michael Porter has sung the praises of being green. In fact, Gore argues, making environmental improvements is often the best way to increase a company's efficiency and, therefore, profitability. Gore and other proponents of this new popular wisdom cite an increasing number of projects that benefit the environment and create financial value. As an example of such a "win-win" project, Gore points to 3M's "Pollution Prevention Pays" program, a group of over 3,000 mainly employee-generated projects, which have reduced 3M's emissions by over 1 billion pounds since 1975 while saving the company approximately \$500 million.

Questioning today's win-win rhetoric is akin to arguing against motherhood and apple pie. After all, the idea that environmental initiatives will systematically increase profitability has tremendous appeal. Unfortunately, this popular idea is also unrealistic. Responding to environmental challenges has always been a costly and

complicated proposition for managers. In fact, environmental costs at most companies are skyrocketing, with little economic payback in sight.

## **Questioning today's win-win rhetoric is like arguing against motherhood.**

In industries such as petroleum and chemicals, which are already plagued with overcapacity, fierce competition, and declining margins, a company's ability to respond to environmental challenges in a cost-efficient manner may well determine its viability. A major North American chemical company, for example, was enjoying an internal rate of return of 55% on employee-generated environmental initiatives similar to the win-win opportunities Gore cites. But when those impressive returns were added to the internal rate of return on *all* corporate environmental projects, the return dropped to a negative 16%.

We do not argue that win-win situations do not exist; in fact, they do, but they are very rare and will likely be overshadowed by the total cost of a company's environmental program. Win-win opportunities become insignificant in the face of the enormous environmental expenditures that will never generate a positive financial return.

Texaco, for example, plans to invest \$1.5 billion per year over a five-year period on environmental compliance and emission reductions for a total investment of over \$7 billion, an amount three times the book value of the company and twice its asset base. In other words, the company plans to double its asset base on projects expected to provide little, if any, revenues. Can anyone argue convincingly that an investment of this magnitude will yield a positive financial return to shareholders? We doubt it.

We must question the current euphoric environmental rhetoric by asking if win-win solutions should be the foundation of a company's environmental strategy. At the risk of arguing against motherhood (and mother earth) we must answer no. Ambitious environmental goals have real economic costs. As a society, we may rightly choose those goals despite their costs, but we must do so knowingly. And we must not kid ourselves. Talk is cheap; environmental efforts are not.

But just because environmental managers should not continue to search exclusively for win-win solutions does not mean that they should return to their old ways of fighting, ignoring, and hamstringing any and all environmental regulatory efforts. On the contrary, being conscious of shareholder value while protecting the environment requires, among other things, a deep understanding of the environmental and strategic consequences of business decisions, collaboration with environmental groups and regulators, involvement in shaping legislation (and even avoiding the need for it), and a sincere commitment to cleaning up and preventing pollution. The

challenge for managers today is knowing how to pick the shots that will have the greatest impact. To achieve truly sustainable environmental solutions, managers must concentrate on finding smarter and finer trade-offs between business and environmental concerns, acknowledging that, in almost all cases, it is impossible to get something for nothing.

Concentrating on enhancing the efficiency and effectiveness of environmental spending may not have the rhetorical appeal of the current win-win talk, but in the long run, such an approach will be far more effective. Consider DuPont, which has the equivalent of 35% of its share price invested in capital and operating expenditures related to protecting the environment. Rather than searching for elusive, but virtuous, win-win situations, DuPont can protect shareholder value more successfully by finding ways to improve its long-term environmental efficiency. A 15% improvement in efficiency, for instance, could yield nearly \$3 per share.

Other companies in pollution-intensive industries would see similar results from efforts to improve environmental efficiency. We estimate that between one-quarter and one-half of an industry's market value is vulnerable to increased environmental costs. And while it is difficult to know how much value will *actually* be destroyed by the increased cost of environmental compliance, it is clear that managers face a daunting task. The recently reauthorized Clean Air Act, for example, is expected to cost U.S. petroleum refiners \$37 billion, over \$6 billion more than the book value of the entire industry. And stories

like that will likely multiply. McKinsey & Company's 1991 worldwide survey of several hundred executives, *The Corporate Response to the Environmental Challenge*, shows that top managers expect environmental expenditures to double as a percentage of sales over the next decade.

Given that scenario, companies should seek to minimize the destruction of shareholder value that is likely to be caused by environmental costs rather than attempt to create value through environmental enhancements. Indeed, the current win-win rhetoric is not just misleading; it is dangerous. In an area like the environment, which requires long-term commitment and cooperation, untempered idealism is a luxury. By focusing on the laudable but illusory goal of win-win solutions, corporations and policymakers are setting themselves up for a fall with shareholders and the public at large. Both constituencies will become cynical, disappointed, and uncooperative when the true costs of being green come to light. Companies are already beginning to question their public commitment to the environment, especially since such costly obligations often come at a time when many companies are undergoing dramatic expense restructurings and layoffs.

### **Evolving Eras of Environmental Management**

The history of the complex relationship between business and the environment illuminates the appeal as well as the considerable danger of the win-win approach. As professors Kurt Fischer and Johan Schot

outline in their introduction to *Environmental Strategies for Industry*, the current approach to environmental management developed in two eras over two decades, beginning in the early 1970s.

In the first era, which lasted from roughly 1970 to 1985, companies faced with new regulations of high technical specificity did little more than comply with the regulations and often fought or stymied them. Fischer and Schot accurately describe this phase as one of “resistant adaptation.” During this period, companies were generally unwilling to internalize environmental issues, a reluctance that was reflected in the delegation of environmental protection to local facilities, a widespread failure to create environmental performance-measurement systems, and a refusal to view environmental issues as realities that needed to be incorporated into business strategy.

During the mid to late 1980s, a shift in the regulatory context and the maturing of the environmental movement created an incentive for managers to look beyond the narrow, predominantly technical approach. With regulations focused more on ultimate environmental results and less on the mechanics of compliance, managers began to exercise greater discretion in their environmental response. For the first time, environmental strategy became possible.

Fischer and Schot call this second phase “embracing environmental issues without innovating.” Because corporate response in the first era was minimal and grudging, companies were able to make easy, but often very significant, improvements in the second era. Between

1989 and 1991, for example, Texaco achieved a 40% reduction in its combined air, water, and solid-waste streams and a 58% reduction in its toxic emissions through pollution-control equipment, tighter monitoring and control systems, and the introduction of an improved waste-reduction process. Similarly, between 1988 and 1992, Georgia-Pacific secured a 65% reduction in dioxins and a 34% decrease in chloroform emissions by relying on substitute chemicals, upgraded equipment, and improved process controls.

The emergence of the win-win mind-set is a direct result of the extraordinary success companies achieved in reducing pollution in this second era. Many of the reduction programs made good financial sense, while few required truly fundamental changes in production processes or product designs. Anxious to demonstrate their commitment to environmental progress, companies were quick to tout their successes. Even informed observers easily came to the conclusion that continued environmental action could more than pay for itself.

### **Why Win-Win Won't Work**

In a foreword to the new edition of *Earth in the Balance*, Vice President Al Gore writes, “[W]e can prosper by leading the environmental revolution and producing for the world marketplace the new products and technologies that foster economic progress without environmental destruction.” While Gore focuses primarily on



government's role, he clearly believes that many win-win opportunities exist for corporations and that trade-offs can largely be avoided through smart decision making and technological innovation.

In his brief but influential *Scientific American* article, Harvard Business School Professor Michael Porter echoes Gore's view, arguing that the perceived conflict between environmental protection and economic competitiveness is, in fact, a false dichotomy. "Strict environmental regulations do not inevitably hinder competitive advantage against foreign rivals; indeed, they often enhance it," Porter writes. "Properly constructed regulatory standards, which aim at outcomes and not methods, will encourage companies to re-engineer their technology. The result in many cases is a process that not only pollutes less but lowers costs or improves quality."

In Gore and Porter's world, managers might redesign a product so that it uses fewer environmentally harmful or resource-depleting raw materials. If successful, that effort could also result in significant cuts in direct manufacturing costs and inventory savings and appeal to consumers' growing desire for environmentally friendly products.

That argument, with its rabbit-out-of-the-hat solutions to many environmental and economic ills, is certainly appealing. Who wouldn't be enamored of an approach that promises that a renewed concern for the environment will revive the country's economic and competitive outlook? Gore's book and Porter's persuasive arguments

have unleashed—or at least reinforced—a school of thought that denies the necessity of trade-offs and encourages companies to pursue prosperity through green initiatives.

## **Who wouldn't like to believe that concern for the environment will revive the country's economic and competitive outlook?**

Yet while Gore and Porter give an inspirational rallying cry, they offer little specific guidance to managers. Porter writes mainly about how a country can gain competitive advantage through strict environmental policies, not about how individual companies might actually seek to gain competitive advantage by becoming green. But that hasn't stopped environmentalists from seizing on Porter's argument and urging businesses to capture the many opportunities to help the environment that await them.

Win-win rhetoric already pervades popular opinion. An April 1993 Times Mirror-Roper poll shows that over two-thirds of Americans do not believe the country must choose between environmental protection and economic development. Yet those who extrapolate a specific strategy for industry from Porter's argument are wrongly assuming that the recent spate of easy environmental wins can be carried on indefinitely. While tough environmental standards may

yield significant positive results for the economy as a whole, individual companies will actually be battling increasingly complex environmental problems at a much higher cost than ever before.

For example, one large chemical company, anxious to capitalize on its early successes, committed to a program to reduce emissions of hazardous wastes. The company soon found that it was starving other important projects, like plant upgrades, and that roughly two-thirds of its capital budget went to environmental spending. Perhaps even more alarming, nearly 80% of plant engineers' time was being consumed by environmental projects. Managers at this company are just beginning to understand that all their relatively easy environmental problems have already been solved and that the economic forces at work in the industry are making it increasingly difficult to find win-win solutions. The company is now exploring ways to achieve greater efficiency and perhaps even to reduce some of its commitments to the environment.

**Managers are realizing that all their relatively easy environmental problems have already been solved.**

As environmental challenges become more complex and costs continue to skyrocket, win-win solutions will become increasingly scarce. Environmental costs have stubbornly continued to outpace

both inflation and economic growth for the past two decades.

Between 1972 and 1992, for instance, total annualized environmental protection costs for the United States tripled as a percentage of gross domestic product (GDP) from 0.88% to 2.39%, with a further increase to 2.47%, or around \$200 billion, projected by the year 2000. In pollution-intensive sectors like oil and gas, the problem is much worse. Compound annual growth in environmental expenditures for a selection of oil and gas companies between 1987 and 1990 was 12.9%, compared with only 7.3% for employee benefits (including health care) and 2.7% for direct labor charges.

Costs are destined to increase even more, especially since the increase in regulations shows no signs of abating. One crude but indicative proxy is that the number of federal environmental acts in force has risen from 5 in 1972 to over 40 today, a spate of legislative activity that has been responsible for a twelvefold increase in the number of pages of federal environmental regulation over the same period. By 1992, Title 40 of the Federal Code contained over 12,000 pages of regulations. And several pieces of environmental legislation, such as the Clean Water Act and the Resources Conservation and Recovery Act, are currently on the congressional docket.

Even without additional regulations, however, progressively tighter standards within current regulations will push corporate environmental spending higher. For example, nitrogen oxides standards (which cover a major air pollutant that often comes from the coal burned to generate electricity) were originally set by the

Clean Air Act at a limit of 0.5 pounds per million British thermal units (BTUs) for electric utilities. This standard was subsequently superseded by many states with tighter limits, culminating in a 0.2 pounds per million BTUs standard to be achieved by 1999, which will result in a tenfold cost increase. While it may be possible to respond creatively to each new environmental regulation or enforcement, the burden on corporations is tremendous.

Moreover, within industries, the burden falls unevenly among companies. In the top ten companies in the oil industry, reported environmental expenditures vary from 5.1% to 1.3% of sales over a three-year period—a difference of roughly \$800 million. And in steel, minimills enjoy a \$10 to \$15 environmental cost-per-ton advantage over traditional integrated producers.

Complicating the situation for environmental managers is the growing array of choices they have for how and when they will respond to environmental pressures. Managers today have so many choices that they aren't always sure what to do. Old-fashioned command-and-control regulations, which allow managers very little freedom, are giving way to market-based incentives, including tradable permits, pollution charges, and deposit refund systems. These new incentives do not tell a company what to do but instead provide a clear set of financial incentives that are designed to influence behavior positively, much like a capital market.

The result? Senior managers must frequently juggle a number of issues without a means for setting priorities or a method for integrating those issues into business decision making. In McKinsey's survey, 92% of CEOs and board members stated that the environment should be one of their top three management priorities, and 85% claimed that one of their major goals should be to integrate environmental considerations into business strategy. At the same time, only 37% believed they successfully integrate the environment into everyday operations, and only 35% said they successfully adapt business strategy to anticipated environmental developments.

### **The Search for Solutions**

Clearly, today's managers lack a framework that will allow them to turn their good intentions into reality. A number of executives are attempting to do just that. Among the most practical of those is Swiss industrialist Stephan Schmidheiny, who led the Business Council at the 1992 Earth Summit in Rio de Janeiro. In *Changing Course*, Schmidheiny and his colleagues at the Business Council, including ABB Chairman Percy Barnevik, retired 3M Chairman and CEO Allen Jacobson, Dow Chemical President and CEO Frank Popoff, and Nippon Steel Chairman Akira Miki, articulate a vision of "sustainable development," or the ability to meet the needs of the present generation without compromising the welfare of future generations. The authors do not claim that growth and the environment are mutually reinforcing. Rather, they argue that economic growth and environmental protection are inextricably linked.

The vision they offer is based on free trade, market prices that reflect the comprehensive societal impact of products and processes, more flexible regulations, and investors who pay greater heed to environmental considerations. In the cases Schmidheiny cites, he shows a clear understanding of the environmental issues managers must face. Yet *Changing Course* does not, nor does it aspire to, provide an all-encompassing framework for managers who must daily negotiate the conflicting demands of the market and the environment.

Schmidheiny leaves CEOs with no clear guideposts for which products or processes to work on first and how far to go in cleaning up and at what cost. Without that guidance, even the most environmentally sensitive CEO will be lost. The current crop of environmental texts suggests that competitive advantage can be found in effective environmental management, yet these texts offer only one-dimensional prescriptions. The common rallying cry of many environmental thinkers is that the environment must be integrated into everyday business decisions, yet few specify what that means.

Many corporations view the environment as a discrete functional area generating issues that are treated in isolation from “core” business issues. Writers on all ends of the spectrum, however, now agree that the outmoded functional approach must yield to a more integrated way of thinking.

In her book *Costing the Earth*, Frances Cairncross, the environment editor of *The Economist*, suggests that the total quality movement may be one vehicle through which environmental issues can be integrated into business as a whole. “In American management terms,” she writes, “environmental responsibility has become an aspect of the search for total quality.”

While Cairncross may be correct, most total quality environmental-management programs have a missionary focus on emissions reductions that doesn't take into account the cost at which that quality is obtained or, alternatively, the value created. Traditional cost-reduction efforts, on the other hand, err too much in the opposite direction by concentrating on quarterly costs without devoting sufficient attention to environmental impact and the longer term costs and liabilities.

### **The Path to Pragmatism**

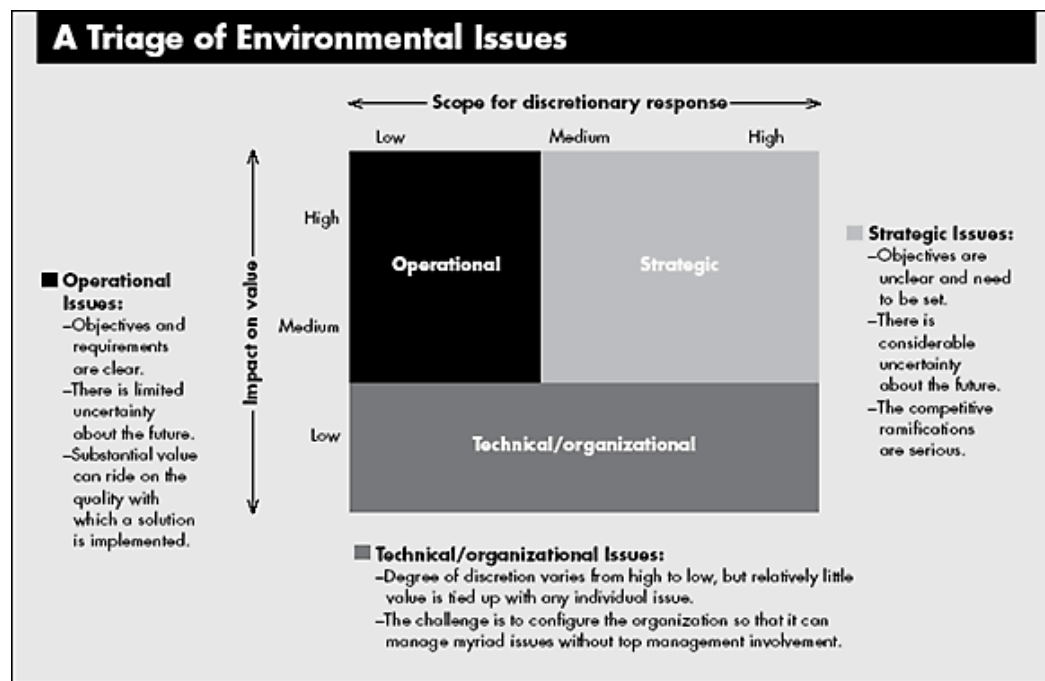
Instead of focusing on win-win solutions, companies would be better off focusing on the “trade-off zone,” where environmental benefit is weighed judiciously against value destruction. Only a focus on value rather than compliance, emissions, or quarterly costs can provide managers with the information to set priorities and develop appropriate business responses. This does not mean that managers should obstruct environmental regulatory efforts. Instead, managers must pick their shots carefully. In a world where you cannot do everything, only a value-based approach allows informed trade-offs between costs and benefits.



## **In a world where you can't do everything, only a value-based approach allows informed trade-offs.**

Much work remains to define all the elements of a value-based approach. Broadly speaking, such an approach must be systematic, integrated, and flexible. Managers must set clear priorities based on the potential impact on shareholder value and the amount of discretion they have to deal with the environmental problem at hand; they must make environmental decisions in the context of the company's needs and strategy; and they must be able to exercise different options as an uncertain future unfolds.

Within this framework, environmental issues can be broken down into three broad categories: strategic, operational, and technical. (See the chart, "A Triage of Environmental Issues.") Each type requires a distinct managerial approach. Together they represent a way of thinking about the environment that goes beyond incremental, reactive, and functional approaches, which are now reaching the limits of their cost-effectiveness.



## A Triage of Environmental Issues

Some environmental issues are *strategic* because their impact on value is high enough either to put core elements of the business at risk or to fundamentally alter a company's cost structure, and because managers have considerable discretion about how to respond. A good example is the issue of chlorine-free paper production facing the pulp and paper industry. Opinion is sharply divided on when, and even whether, government regulation will prohibit the use of chlorine in the paper manufacturing process. The value implications for pulp and paper companies are enormous, not only because of the absolute cost of chlorine-free production but also because some companies are likely, by virtue of their plant configuration or other reasons, to enjoy

a relative competitive advantage in this form of manufacture. Meanwhile, the level of discretion in how to respond is considerable. While Louisiana-Pacific has started to prepare its organization for chlorine-free paper production, many other industry participants are fighting tooth and nail to undermine proposed legislation.

As that situation suggests, one key decision managers must make about each major environmental problem they face is whether to lead or lag behind their competitors on environmental issues. In some cases, a company will want to pursue an environmental strategy in which it gets well in front of regulations or public opinion, as Louisiana-Pacific did. In other cases, a corporation may be best served by moving in lockstep with industry leaders or reacting only in response to external pressures. The decision to lead or lag regulations is something of a management catch-22. If a company lags, it may find itself on the receiving end of unfavorable regulations, but if the company leads, its actions could increase near-term production costs and leave the company vulnerable to its competitors.

Managers will find that their options can be broken down into those that help them shape events, like forming partnerships with stakeholders, and those that help them develop an optimal response to events, like reallocating resource dollars and redesigning production processes. To prepare a strategy, managers must decide where they want to be on the spectrum from strict compliance to environmental leadership.

*Operational* issues are those where the impact on value ranges from medium to high, but managers' scope for discretionary response is generally low. Management's task with these issues is to ensure that minimum expenditures achieve maximum environmental impact. The example of broad emissions control, again from the pulp and paper industry, illustrates the point. While annual expenditures for complying with regulations controlling air, water, and solid-waste emissions are measured in the hundreds of millions of dollars, companies often have little choice about whether or how to comply.

The challenge with these issues is to view environmental costs as manageable, not as a set of mandates for which a blank check is the only solution. The first step is understanding how much is being spent on emission control and why. The second step is devising an approach that ensures that maximum environmental impact is achieved at minimum cost.

Finally, there are those issues that are largely *technical*, where the degree of managerial discretion varies from high to low, but relatively little value is tied up with any individual issue. The cumulative weight of thousands of these decisions, however, can have an adverse effect on shareholder value. Managers must have the necessary information to make informed trade-offs between cost and environmental control. Business unit managers seldom have adequate information about even current environmental costs let alone possible future liabilities or pressures. The best way to provide that information is to create systems to track and disseminate emissions data on a cross-functional

basis, provide environmental cost accounting, and perform thorough, opportunity-oriented—as opposed to compliance-oriented—third-party audits. That approach is in contrast to current “worst practice,” prevalent in the McKinsey survey, which can be summed up with this attitude: “There are enough problems that will find us without our having to find new ones.”

For all environmental issues, shareholder value, rather than compliance, emissions, or costs, is the critical unifying metric. That approach is environmentally sound, but it’s also hardheaded, informed by business experience, and, as a result, much more likely to be *truly* sustainable over the long term.

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Noah Walley and

BW

Bradley Whitehead are consultants in the New York and Cleveland offices of McKinsey & Company.