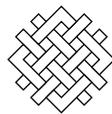


The Next Bottom Line

Making Sustainable Development Tangible

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FOREWORD



All over the world business people have begun to explore the opportunities and challenges of sustainable development and the opportunities to realize it. As with any new undertaking, there are many more questions than answers: Questions about markets, organizations, and policies that will offer the private sector a path that protects the future by both using resources more efficiently and meeting economic, social, and environmental needs.

Exploration is not action. Meaningful change has not yet begun. For all of the talk about “the next Industrial Revolution,” by and large we keep making, selling, and using the same products.

What development is really sustainable? Business people convinced that the time has come for major change cannot find the guidance they need to determine exactly what those changes should be. Where will the markets be? Where will new resources, knowledge, and energy be found? How can the business case for change be made?

The Next Bottom Line: Making Sustainable Development Tangible addresses these questions and brings the concept down to earth for the business audience. Its frameworks, tools, and success stories break down sustainable development into ideas small enough to grasp, and powerful enough to lead to new, important business opportunities.

At the World Resources Institute, we work to identify practical policy solutions to many of the global challenges that are driving the debate around sustainable development—challenges such as climate change, economic and social development, and the preservation of our



natural resources. In almost every instance, the private sector will have a formative role in creating the solutions. Those solutions, in turn, will provide strong business opportunities for companies that innovate and develop new markets based around the principles of sustainable development.

The path to a sustainable economy requires that firms look for and find financial success in the solutions to our environmental and social challenges. This report is a clear roadmap for companies bold enough to take us down that path.

Jonathan Lash
President
World Resources Institute



1 . O V E R V I E W

Business people all over the world are discovering extraordinary opportunities generated by protecting the natural environment. While scientists debate the magnitude of climate change and natural resource degradation, and while policy-makers develop appropriate policy responses, many in business are seizing the moment to move quickly toward sustainable development. They are developing new products and services that solve environmental problems and create business value at the same time. They are beginning to rely on intangible resources, such as knowledge and communication, with a smaller amount of natural resources to meet the needs of customers more effectively and efficiently than their competitors. They are discovering ways to deliver energy, food, shelter, and consumer goods with far lower environmental impact. They are commercializing new technology in power generation, food and fiber production, and dozens of other industries. These early innovators and others in their wake are proof that a sound business can indeed create a safe environment.

Leadership in this market-driven movement comes from two kinds of companies. First, market leaders in resource-intensive industries have recognized that their success depends in part on their ability to provide superior value to customers with the least possible environmental impact. Du Pont's commitment to zero emissions, for instance, and its increasing investments in knowledge-based businesses are leading the company to rethink its core chemicals and materials businesses. British Petroleum's commitment to address global climate

WHAT IS SUSTAINABLE DEVELOPMENT?

We define sustainable development as growth that meets economic, social, and environmental needs without compromising the future of any one of them.

change is causing the company to reassess a corporate future based on fossil fuels. Automobile manufacturers such as General Motors and Toyota are intensively researching alternatives to the internal combustion engine; Toyota is reportedly committed to selling 20,000 hybrid gas-electric vehicles in the U.S. market (<http://www.steveparker.com/updates/master.htm> [July 15, 1998 update]). Forest products, electronics, real estate development, banking, insurance, power generation, consumer products, and retail—in all these fields a few companies are developing and commercializing technologies that promise to change the competitive landscape.

The second kind of leading company consists of a few progressive firms that have made environmental stewardship a core purpose of their business. Patagonia, for example, aspires to restore nature while providing high-performance outdoor gear. Collins Pine has pioneered forest stewardship and certification of responsible forest management. Portico manufactures and sells sustainably harvested wood products. Whole Foods, Ecover, Earthshell, Ballard Power Systems, Ecomat, and others are experimenting with the limits of commerce and technology to build thriving “green” businesses. These avant-garde and usually smaller companies provide lessons and hope to others that will follow.

In the last decade, the number of companies engaging in sustainable development has skyrocketed. Arthur D. Little recently found that 96 percent of nearly 500 companies surveyed thought it was important to do something about sustainable development. Unfortunately, fewer than 15 percent of them saw a business case for this type of development beyond efficiency improvements, and only 51 percent recognized the case for efficiency (Poltorzycki, 1998, pp. 3, 9).

WHY ARE COMPANIES TURNING TO SUSTAINABLE PRACTICES?

After 10 years of helping companies improve their environmental and social impacts in ways that benefit their business, we believe there is a compelling business case for environmental investments. In hundreds of interviews and discussions with business people, we have heard several different reasons why they pursue sustainable development.

Morality. One reason is because it is morally right. In this view, business owes it to society to improve people's lives and the environment in exchange for the privilege to operate. Because of differences in people's morals, we will not focus on morality as a prime motivator in this analysis.

Compliance. A second rationale we hear is that businesses should invest in the environment or safety because the government ultimately will force them to do so anyway. This argument has merit in many cases, but uncertainty and regional differences in the power of civil society and regulatory enforcement make it inconsistent. We have seen several companies invest in anticipation of new requirements and lose out because they never materialized. Nonetheless, the trend worldwide is for more government regulation and better enforcement, which suggests that legal requirements will remain a major driver of business investment in the environment for years to come.

Opportunity. The least frequently mentioned reason is that lots of money can be made from protecting the environment and people. Although there is growing evidence and experience to support this assertion, the record is not perfect. For efficiency improvements and cost reduction, the case is very clear: businesses are very good at making more from less. Eco-efficiency reduces waste and thereby improves the environment and the bottom line. But the value of sustainable development as a driver of innovation, new market development, and new technology is just beginning to emerge. As in any new business, there are no guarantees of success. Nevertheless, we believe this argument holds the most promise because businesses respond best to opportunity.

WHERE ARE THE OPPORTUNITIES?

All of these new activities for a more harmonious connection between business and sustainable development derive from the continuing deterioration in many ecosystems and societies. Almost every global environmental trend is moving in the wrong direction—water quality, the health of fisheries, urban air quality, and forest cover, to name but a few (WRI, 1998). Although incomes have been rising, the prospect of continued growth along current patterns of consumption and production promises to put even more pressure on our natural systems. These trends, although they vary significantly around the world, are changing the context in which many companies operate.

These trends create market opportunities in three ways. First, businesses can discover ways to deliver more value and service with fewer resources. Second, businesses can generate revenue from natural services such as water quality, biological diversity, carbon sequestration, and protein production. Finally, companies can establish connections in their communities and markets, seeking out new partnerships and collaborations. These three strategic opportunities—in resources, ecosystems, and community connections—constitute our business agenda for sustainable development, as described in Chapter 2.

We recognize that these opportunities have to provide financial and operational benefits to a company. Chapter 3 discusses four discrete sources of value:

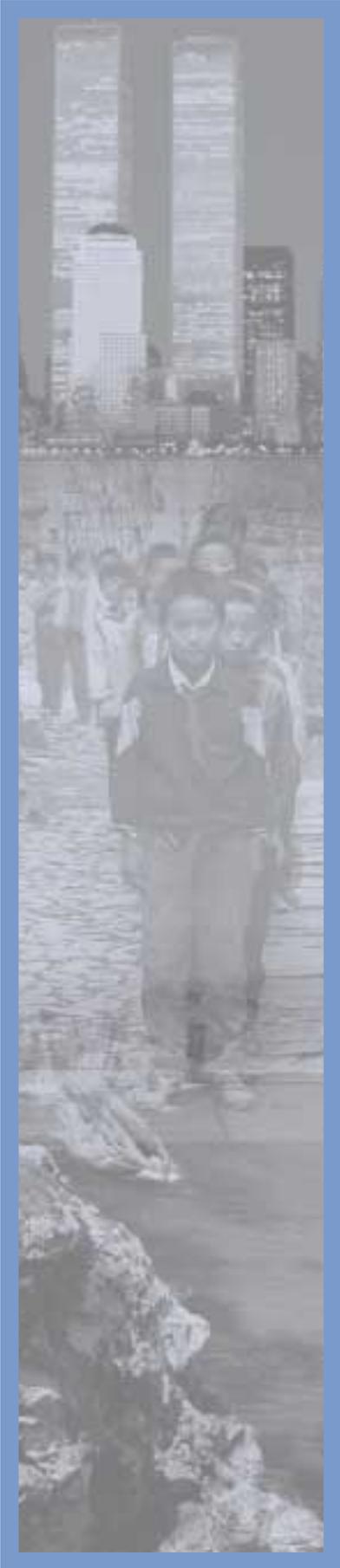
- Protecting businesses' right to operate
- Reducing costs and liabilities
- Increasing customer loyalty and market position
- Developing new markets.

Just as we have learned that businesses respond most dynamically to financial opportunities, we have found that certain business approaches work better than others. In Chapter 4 we identify six management success factors that will help companies exploit the market power of environmental investments fully. Any company can compare itself with its competition in these areas:

- Having committed leadership
- Being engaged externally
- Measuring environmental and social progress
- Developing strategic intent
- Shortening the value chain
- Designing an adaptive culture.

Despite the opportunities we see for business to invest profitably in sustainable development, we also see many barriers that inhibit leaders from moving more quickly. Around the world, governments tax labor and investment while they subsidize use of natural resources. The use of public lands for grazing and logging, and public support for irrigation, agricultural subsidies, and fossil fuel infrastructure—all these programs work against sustainable development. Business leaders working for change can go only so far before they run into these barriers. At that point they can stop, or they can lobby for changes in public policy that will reward further investment in sustainable development. True leadership on this issue encompasses private investment decisions and public positions as well.

Our conviction is that business is the most powerful sector of society for solving environmental problems. Consequently, this publication is for business people—both those who see the opportunity and those who have not yet looked for it.



2. A BUSINESS AGENDA FOR SUSTAINABLE DEVELOPMENT

Businesses often react cautiously to environmental and social change. Prevailing business practices get changed when a vocal minority creates pressure on a company or industry to stop something. Labor and environmental practices in particular tend to evolve slowly.

Sustainable development breaks this pattern. It requires businesses to change course on their own, often in the absence of substantial pressure, but in pursuit of a set of general principles. The rationale for sustainable development is enlightened self-interest: Over time, as societal expectations change, companies should anticipate those changes and develop new practices and new markets in advance. The principles of sustainable development are broad but precise. Indeed, they often pose internal conflicts between the short-term well-being of people and the long-term well-being of ecosystems. This imprecision leaves most business people—indeed, most people—at a loss. As advocates of sustainable development, we feel obliged to articulate a tangible and actionable agenda for business.

In preparing this agenda, we have embraced two implicit but important design criteria. The first is that such an agenda can provide only a direction, not a destination. Our approach prescribes a process but not an outcome. In three strategy areas, we outline things we believe business should do more of, but we do not say exactly how much more. We ask that business work hard on these items—doing experiments, learning, and changing practices. We believe that earnest efforts to move in each of these directions will create significant

WHAT DOES THIS AGENDA DO?

This agenda provides a direction, not a destination, and it focuses on what can be done by any company.

change. The pace of change will vary by company and industry. We simply call for, and applaud, intensity of effort.

The second design criterion is that the agenda must be relevant to industry. Sustainable development is a very big tent, and governments and civil society must play a significant role. We realize that business will be only part of the solution to most problems. We do not focus explicitly on poverty alleviation, income distribution, basic infrastructure, or literacy. Instead, we focus on what a company can do, either as the reason for its business or out of obligation to the community in which it operates. This agenda can be embraced by any company in any industry. It is relevant to large and small firms, to service industries as well as manufacturing and extractive ones, and to companies in both industrial and developing economies.

With those criteria in mind, we offer three basic strategies that can improve both environmental and financial performance. These approaches form a plan of action that companies can adopt in their own self-interest:

- By using knowledge and information, companies can increase resource efficiency.
- By generating revenue from nature's services, companies can protect and restore natural systems.
- By forging connections with communities, companies can gain trust and identify emerging markets more quickly.

DOING MORE WITH LESS

Although substantial gains have been made in energy and resource efficiency, the global economy is still inefficient at converting material into products and services. A recent report by the World Resources Institute (WRI) and several partners vividly illustrated this point when it described the total material flows required as inputs by the economy. (Adriaanse and others, 1997, p. iv). The authors found that even in the most modern and efficient industrial economies, annual material requirements per person total between 45,000 and 85,000 kilograms—the weekly equivalent of 300 shopping bags full of “stuff.” In the United States, “hidden material flows”—material carved out of the

environment but discarded before it enters the monetary economy—account for almost 75 percent of the total. And this does not even include waste further downstream in the economy, in the use of products. Paul Hawken has argued that “American industry uses as much as 100 times more material and energy than theoretically required to deliver customer services” (Hawken, 1997, p. 49).

Maximizing Resource Productivity

Table 1 provides several management indicators of the productivity of resources. These indicators are most relevant to industries—including service industries—that consume or produce large volumes of material and energy: those dealing with chemicals, oil and gas, metals, forest products, power generation, electronics, manufacturing, retail, distribution, or food. The challenge for managers in these industries is to reduce their “environmental footprints”—their impact on the environment from cradle to grave of the product—while increasing sales growth.

As one businessperson put it, “The business mindset will have to change from volume to value creation” (WRI, 1997, p. 6). The new, value-related measures will lead a company away from commodity products and toward a search for ways to differentiate products through branding, upgrading function, or bundling with services. These measures reward delivery of value to the customer—translated into sales or value added—and the simultaneous reduction in environmental footprints. The older measures, in contrast, reward increases in throughput, capital investment, and production.

WHO CAN USE THIS AGENDA?

This agenda is relevant to large and small firms, in service industries as well as manufacturing and extractive ones, and to companies in both industrial and developing countries.

Table 1. CHANGING MEASURES OF RESOURCE PRODUCTIVITY

Old Measures	New Measures
Volume Intensity	Knowledge Intensity
Volume Output	Value per Volume Output
Capital Invested	Value per Unit Capital Invested
Material Throughput	Material per Customer Served
Virgin Material and Energy	Recovered Material and Energy
Focus on Product	Focus on Function

Using Knowledge More and Materials Less

The resource productivity measures are designed to push company operations toward new ways of doing business, as Du Pont is discovering. (See Figure 1.) Such analysis contributed to their recent decision to move out of the petroleum sector. They have determined that their future lies in knowledge, not in materials, and they are not alone. (See Box 1.)

The key to resource productivity lies in making creative use of knowledge to drive resource use down and the value to a customer up. Knowledge can increase the efficiency of an operation, and also the value of a product. We agree with business writer Thomas Stewart: “Knowledge is more valuable and more powerful than natural resources, big factories, or fat payrolls. In industry after industry, success comes to the companies that have the best information or wield it most effectively” (Stewart, 1997, p. ix).

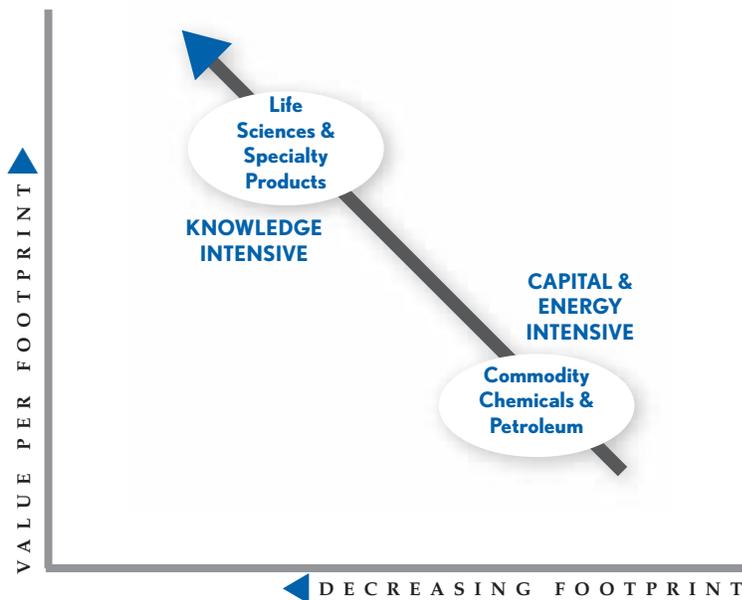
Information is so important because it differentiates a company from its competitors. As Professor Michael Porter points out, “A company can outperform rivals only if it can

establish a difference that it can preserve . . .

Competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value” (Porter, 1996, pp. 62, 64). The link between Porter’s competitiveness argument and Stewart’s intellectual capital concept is clear—firms should invest in information over material use because anyone can have access to materials, but each company has a unique set of information at its disposal.

Furthermore, when a firm is investing in the use of information over materials, it is also beginning to divorce itself from the dwindling resource base. It is in a better position in terms of the environmental trends WRI and others have identified. And the environment benefits from the reduced material intensity.

Figure 1. ALTERNATIVE WAYS TO CREATE VALUE



Source: Du Pont.

Box 1. USING KNOWLEDGE TO REPLACE MATERIALS

Taking a Byte Out of Carbon, a recent report by WRI, the Electronic Industries Alliance, and the International Cooperative for Environmental Leadership, discusses ways to reduce energy use through new electronics innovation. The authors herald the growth of three “enabling technologies” that hold considerable promise for reducing carbon emissions either by replacing carbon-intensive activities (such as automobile transport) or by making existing activities more efficient: displays, bandwidth, and sensors and controls.

Displays

Electronics will truly begin replacing the use of paper, transport, and other material- and energy-intensive technologies once the ability to display stored information is more portable and higher in quality. Recent advances in display technology are bringing this closer to reality. Xerox’s Palo Alto Research Center, for example, is developing “electric paper,” also known as bi-stable display, that would store images without needing a power source, would work by reflection (like newsprint, as opposed to current computer displays), would be about twice as thick as ordinary paper, and would be reusable up to a million times.

Bandwidth

Personal, eye-to-eye contact is necessary in many business situations. Teleconferencing offers opportunities to replace physical travel for such meetings with electronic exchange over phone lines, but until recently the technology to transmit such massive amounts of data has been unavailable. Kodak’s development of Digital Video Cameras that connect to home personal computers marks the first time that such technologies have become widely available and effective. The carbon savings are potentially huge—for a meeting between two parties 600 miles apart, teleconferencing entails less than 1 percent of the carbon emissions of airline travel.

Sensors and Controls

Much of the energy used to light, cool, and heat buildings and run equipment is wasted through inefficient usage. In buildings, for instance, lights are often left on even when no one is in the room, instead of being directed to where they are really needed. Some companies, such as Honeywell and Siemens, make control systems that are designed to maximize the efficiency of such equipment. In another example, Intel has developed the Instantly Available Personal Computer, which allows a PC to enter a “sleep mode” of less than 5 watts (compared with upwards of 180 watts when fully running) that involves very low power consumption, maintains connections to networks, and also “wakes up” very quickly.

Source: Horrigan, Irwin, and Cook, 1998, pp. 5–12.

A great example of replacing material with knowledge is found at a Ford Motor paint shop in the United Kingdom. Ford has turned operation of the shop over to Du Pont, which is using its superior knowledge of coating properties to use less paint. Instead of paying Du Pont for each gallon of paint used, Ford pays per car painted. Du Pont’s incentive shifts from selling more paint to getting more cars painted. The company is experimenting with different viscosities, spray nozzles, and application technologies to reduce the amount of

paint needed to coat a car, and also to reduce overspray. Du Pont's knowledge has allowed them to reduce the material throughput significantly, saving about 8 percent in costs each year over the first two years. Their market share in the U.K. automotive painting business has gone from 25 percent to about 75 percent, and their relationship with Ford is much stronger (*Green Business Letter*, 1997, p. 7).

GETTING REVENUE FROM NATURE

The economic value of ecosystem services was recently estimated at about \$33 trillion a year, more than the gross world product (Costanza and others, 1997, pp. 253–60). Virtually none of these services is priced in the formal economy. The natural assets that produce these undervalued services have been severely degraded by development, exploitation, and inattention. With the support of policymakers and innovative business leaders around the world, the value of these services will increasingly be reflected in commercial transactions. Companies that destroy ecosystems and the services they supply will lose value; those that preserve and sell these services should gain value.

Although ecosystem services have been undervalued, they have not been unappreciated. Vocal and increasingly powerful interest groups have represented fish, wildlife, wild places, and sensitive ecosystems for years. A small number of leaders in natural resource industries have made a practice of reinvesting in their natural assets. Progressive developers have attempted to preserve the integrity of the places they developed. Although these companies are few in number, they have raised the expectations of interest groups about what is possible in sensitive ecosystems. Companies that ignore these signals will lose their right to operate in many places as more responsible actors replace them.

Ecosystems are beginning to be valued directly for their services. The potential of forests and soils to sequester carbon has triggered the entrepreneurial interest of dozens of companies and is creating an intense debate among nations about the equity of offsetting high

WHAT ARE ECOSYSTEM SERVICES?

Ecosystem services are functions performed by natural processes in response to the environment. They include air and climate regulation, water filtration and distribution, nutrient production, biological controls, and recreation and cultural services.

carbon emissions in one place against low emissions or carbon sequestration in others. The ability of watersheds to generate potable water more cheaply than secondary treatment has been recognized in New York and elsewhere (Reid, 1998). Pharmaceutical and

agricultural companies are starting to invest in research to capture the value of biodiversity for crops and medicines. Natural forests are becoming buffers around protected areas, as well as around rivers and lakes to protect riparian ecosystems.

Natural preservation and restoration are often portrayed as areas of opportunity for businesses outside the mainstream, such as ecotourism or community farming. Companies large and small, however, are beginning to discover three broader areas of opportunity to gain revenue from nature by:

- Offsetting degradation from other operations
- Using natural systems to reduce operating costs
- Creating new businesses around restoration.

Offsetting Degradation from Other Operations

Some companies are finding that the restoration of nature can strengthen their right to operate if they are offsetting degradation from other activities. Water emissions offsets are a good example. In “nonattainment” water systems (those that do not meet U.S. Environmental Protection Agency standards), companies are often prohibited from any expansion that would result in higher emissions of water pollutants, such as organic material or phosphorus. Some states are now experimenting with trading schemes that allow firms to undertake such expansions if they offset the emissions with pollution prevention efforts upstream. Often these efforts focus on farms or other “non-point” pollution sources, depend on ecosystem restoration to curb runoff, and result in lower net pollutant loads in the watershed.

Companies sometimes find that they can generate a real competitive advantage from natural restoration efforts. Forest products giant

HOW DO ECOSYSTEM SERVICES CREATE BUSINESS OPPORTUNITIES?

Preserving and restoring ecosystems permits businesses

- To offset degradation from other operations
- To use natural systems to reduce operating costs
- To create new businesses around restoration.

Weyerhaeuser, for instance, has major landholdings in the Pacific Northwest but does not depend heavily on public lands. When public outcry over the spotted owl and other endangered species forced the U.S. government to take large chunks of public land out of harvest for habitat conservation, Weyerhaeuser was not directly affected, whereas many of its competitors were devastated. When further actions were then considered by the government, Weyerhaeuser's foresters implemented Habitat Conservation Plans that would preserve buffer zones and crucial habitat areas in exchange for being allowed to continue timber operations on the lion's share of its holdings. While competitors' supplies dwindled and prices rose, Weyerhaeuser's supply of Douglas fir remained fairly stable, bringing in additional returns. (See Milstein, 1997.)

Using Nature to Reduce Operational Costs

Natural systems are often more effective than human-engineered systems at performing basic functions. Recent studies at Chernobyl, for instance, have shown that restoration of natural grasslands is the most effective way to clean up radioactivity from the infamous nuclear disaster. The natural processes of reestablishing the grasslands result in less radioactivity in downstream water supplies than would come from "hard" engineering solutions (Davydchuk, 1997).

Ethel M. Chocolates, Inc., a division of Mars, Inc., located in Nevada, has installed a "Living Machine" to treat thousands of gallons of wastewater per day. The system uses "an acre of tanks, marshes, and reed beds where bacteria, zooplankton, plants, snails, and fish process the organic waste into water that is reusable for nonpotable uses" ("Chocolate Factory Installs 'Living Machine' to Treat Wastewater," 1996, p. 10).

Similarly, architect Bill McDonough and others have shown that nature-based systems can reduce building heating and cooling costs by using evaporation and other forms of solar energy. McDonough designed a Wal-Mart in Lawrence, Kansas, that not only used environmentally friendly construction materials and methods but also reduced utility use by 54 percent (Reder, 1995, p. 286). The potential of nature-inspired business operations has barely been tapped. (See Box 2.)

Creating New Businesses around Restoration

To a limited extent, companies are finding that they can sometimes create a business entirely around the restoration of natural capital. Costa Rican door manufacturer Portico, for example, bought a large area of forest in the early 1980s through a debt-for-nature swap that required the company to use minimized impact techniques. Over the next 15 years, the company found that its more responsible harvesting and forestry methods improved the quality of the wood, allowing Portico to produce a high-end, high-margin product. Third-party sustainable forestry certification helped open even more opportunities. Today Portico dominates more than half of the southeastern United States market for its product and is creating an entirely new forestry consulting business based on its experience and knowledge (Diener, 1998).

Humankind already uses as much as 40 percent of the planet's net primary productivity (Hart, 1997). Greater business opportunities for natural restoration operations will emerge rapidly in the near future. Carbon sequestration, if driven as expected by global climate change mitigation efforts, would provide revenue for firms that preserve the ecosystem services of their landholdings. Costa Rica has already begun investigating the possibility of officially trading carbon futures to facilitate the development of this market. (See <http://www.envifi.com/News/tomorrow.htm>) In New York City, officials have sponsored a project to preserve and rehabilitate the watersheds upstate that meet the city's tremendous demands for drinking water (Reid, 1998). Companies that

Box 2. NATURE'S FOUR TRICKS OF THE TRADE

Life-friendly manufacturing processes

"Life can't put its factory on the edge of town; it has to live where it works. As a result, nature's first trick of the trade is that nature manufactures its materials under life-friendly conditions—in water, at room temperature, without harsh chemicals or high pressures."

An ordered hierarchy of structures

"From the atomic level all the way to the macroscopic, precision is built in, and strength and flexibility follow."

Self-assembly

"Whereas we spend a lot of energy building things from the top down—taking bulk materials and carving them into shape—nature does the opposite. It grows its materials from the ground up, not by building but by self-assembling."

Customizing materials through the use of templates like crystals and proteins

"Whereas we muddle around in our industrial chemistry with final products that are a mish-mash of polymer-chain sizes, with most too long or too short to be of ideal use, nature makes only what she wants where she wants and when she wants. No waste on the cutting-room floor."

Source: Benyus, 1997.

look to take advantage of these instances of natural restoration, which are rare at the moment, will be out ahead of the competition.

C O N N E C T I N G W I T H C O M M U N I T I E S

Globalization of the economy means that competition is ever present, mandating constant innovation. Globalization of information means that potential critics and watchdogs are everywhere all the time, making it imperative that companies learn of potential conflicts as early as possible. In a world wired to CNN and the Internet, companies can satisfy needs for both risk avoidance and learning by forging relationships with their communities.

Most companies have numerous connections to the community through local school systems, chambers of commerce, volunteer efforts, and so on. These involvements are rarely coordinated, however, and their benefit to the company is seldom assessed. Purposeful and planned engagement by an entire organization at multiple levels and in multiple venues can have tangible benefits. For example, community advisory panels, while designed primarily to alert those living near industrial plants to important safety information, have benefited the companies in other ways. They give key members of the community an avenue for getting more involved in each facility's day-to-day concerns. For one plant manager, the advisory panel led to his involvement in the Chamber of Commerce and the Parent-Teacher Association, which proved vital for his company's recruitment needs and supplier relationships. He was able to make arrangements with a local community college to encourage better training of students in return for providing employment opportunities at his plant.

Such associations establish two-way communication between a company and its communities, spurring market growth and reducing risk exposure. Establishing the right partnerships can accelerate market penetration, facilitate learning, and build relationships in a new country or industry. Partnerships can also help in expanding internationally. As the power industry globalizes, for instance, companies having the most success usually have selected the best partners. The

company that networks and partners well will be able to respond to new opportunities quickly and flexibly anywhere. On the risk side, companies are especially vulnerable to external pressure when entering a new country or a new market, when making significant operational changes, or when introducing new technology. These vulnerabilities can be reduced by establishing connections to stakeholders on key issues, by forming alliances within the industry, and by conducting joint research with affected parties.

Recent research has begun to reveal exactly how connectedness works. Harvard researcher Robert Putnam has found that the amount of social connectedness in a community—involvement in civic groups, religious centers, and schools, for example—is a good predictor of the economic well-being of the community (Putnam, 1992). It has often been assumed that a strong economy allows neighbors to be friendlier to each other, to be more involved in their community. But these researchers argue that the relationship is reversed—that the interconnected community does well economically. (See World Bank, 1997, ch. 6.)

Why? The answer boils down to trust and opportunities. First, when you know you have to see your neighbors every day at home, at work, at church, and at the club, you don't want to get a bad reputation by cheating or breaking the social contract. Your neighbors feel the same way. So by simple extension, you can trust them, too. Trust helps spur the economy by making deals easier, by facilitating loans, and by reducing the costs from crime, bankruptcy, and other social ills. Trust also makes neighbors less suspicious of the company's activities and more willing to take any grievances directly to the company rather than through the legal system. Opportunities arise because you run into potential partners more often. In one study of a small town in northern Italy, researchers found that the business owners all knew each other and saw each other frequently after hours at church and around town (Mueller, 1997, p. 155). Not surprisingly, they were each other's strongest customers. If you want to sell something or you want to buy something, it is a lot easier to find a business partner if you are connected to your community.

In fact, every company is a member of many "communities" through their different activities and presences. Communities can be

local neighborhoods, regions, industries, interest groups, work forces, and more. McDonald's provides a wonderful example: people who work in its restaurants are involved in their local neighborhoods; the company as a whole is a leader in the fast-food industry community; as one of the largest employers in the United States, it is the nation's largest training organization. Its work force is an extensive community, and as a multinational corporation, the company is a member of a broader investor community. (See <http://nimbus.ocis.temple.edu/~ychoi/mcdonald.html>) The same trust and opportunity dynamics operate within all these communities—and by having a reputation as a responsible company, McDonald's gains access to investment in new markets around the globe.

As for environmental performance, companies deeply entrenched in their communities will be less likely to pollute and will look for—and be encouraged by the communities to find—ways to avoid impacts or mitigate them. But the benefits of connectedness for society extend beyond environmental issues to encompass broader social responsibility. As economies continue to globalize and cultures merge, as the Internet brings people closer together, the ability to understand what is expected and to deliver on those expectations will be critical. These expectations come from new customers in new markets, and also from a myriad of stakeholders. The astonishing thing about these expectations is how often a company does not even know they are out there, does not really listen, and does not respond. The accelerated rate of change in most societies will mow down the unresponsive. New competitors will respond, and stakeholders will exert their growing power to influence a company's fate. We believe that connected companies will perceive the need to change before it is too late.