

Communal Responsiveness and Environment Concern

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A time existed when corporations used the environment as a free and unlimited resource. The time is ending, in terms of international public awareness and increasing legislative control. The magnitude of environmental abuse, not only by industries but also by human activities and nature's processes, has awakened an international awareness of the need to protect and save the environment. At risk is the most valuable stakeholder, the earth itself. The depletion and destruction of air, water, and land are at stake in terms of natural resources. Consider the destruction of the rain forests in Brazil; the thinning of the ozone layer above the earth's atmosphere; climate warming changes from carbon dioxide (CO₂) accumulations; the smog in Mexico City, Los Angeles, and New York City; the pollution of the seas, lakes, rivers, and groundwater supplies as a result of toxic dumping; and the destruction of Florida's Everglades National Park. At the human level, environmental pollution and damage cause heart and respiratory diseases and lung and skin cancer. Registered voters have stated that the most important environmental problems facing the nation are air pollution (26%), unsafe drinking water (11%), water pollution (11%), and toxic/hazardous waste (10%) (USA, 2001).

MOST SIGNIFICANT ENVIRONMENTAL PROBLEMS

TOXIC AIR POLLUTION: More people are killed, it's estimated, by air pollution (automobile exhaust and smokestacks emissions) than by traffic crashes. The so-called greenhouse gases (GHGs) are composed of the pollutants carbon mono oxide (CO), ozone (O₃), and ultrafine particles called particulates. These pollutants are produced by the combustion of coal, gasoline, and fossil fuels in automobiles. The American Lung Association (ALA) ranked the following US metropolitan areas the worst in 2001 in terms of ozone and GHGs pollution: Los Angeles and three other California Sites, the Houston-Galveston area of Texas, and Atlanta. Another study stated that by adopting GHG abatement technologies that are currently available, 64,000 lives could be saved in Sao Paulo, Brazil; Mexico City, Mexico; Santiago, Chile; and New York alone in the next 20 years. The same study estimated that 65,000 cases of chronic bronchitis could be avoided and save almost 37 million persons-days of lost work [Searbrook, 2001].

Air pollution and GHGs are linked to global warming, as evidenced in

- The 5 degrees increase in Arctic air temperature, as the earth becomes warmer today than at any time in the past 125,000 years.
- The snowmelt in northern Alaska, which comes 40 days earlier than it did 40 years ago.
- The se-level rise, which, coupled with the increased frequency and intensity of storms, could inundate coastal areas, raising groundwater salinity.
- The atmospheric CO₂ levels, which are 31 per cent higher than preindustrial levels 250 years ago (Steiner, 2001).

Nationally, CO₂ emissions are a major source of air pollution. The "dirtiest dozen" states with the most pollutant emissions from electric power plants are listed in Table 1. Internationally, GHG emission statistics show that Spain had the largest increase in emissions, followed by Ireland, US, Japan, Netherlands, Italy, and Denmark. The European Union (EU), Britain, and Germany had emission decreases during this period (Table 2).

Table:1 STATES WITH HIGESTEST POLLUTANT EMISSIONS FROM POWER PLANTS		
Rank	State	Pollutant Emissions (Millions of pounds)
1	Ohio	95.2
2	West Virginia	62.3
3	Pennsylvania	58.9
4	Florida	58.0
5	North Carolina	48.4
6	Georgia	47.2
7	Kentucky	44.8
8	Indiana	44.3
9	Michigan	33.8
10	Illinois	32.1
11	Alabama	28.7
12	Tennessee	26.7

SOURCE: US Public Interest Research Group. Adapted from J. Fialka, "Bush Clean-Air Plan Born in Gore's Kyoto Playbook," *Wall Street Journal*, March 12, 2001, A24

To stabilize the climate, global carbon emissions must be cut in half, from the current 6 billion tons a year to under 3 billion tons year. This reduction can be accomplished by producing more efficient cars and power plants, using mass transit and alternative transit and alternative energy, and improving building and appliance standards. These changes would help alleviate energy crisis as well as global warming and air pollution.

Table 2: GREENHOUSE GAS EMISSIONS		
Countries	Reduction Targets Increases by 2008-2012*	Emission Changes 1990-1999
Spain	15%	23.2%
Ireland	13.0	22.1
United States	-7.0	16.0
Japan	-6.0	7.8
Netherlands	-6.0	6.1
Italy	-6.5	4.4
Denmark	-21.0	4.0
European Countries	-8.0	-4.0
Britain	-12.5	-14.0
Germany	-21.0	-18.7

* Kyoto Protocol and EU burden sharing

SOURCE: European Commission: European Climate Network, Adapted from G Winestock, "EU Wrestles with Business over Emissions," *Wall Street Journal*, July 13, 2001, A9.

WATER POLLUTION AND THE THREAT TO SCARCITY

Over a billion people – one in every five on earth – have no access to safe drinking water. Sample percentages of the populations who do have access to safe drinking water include Ethiopia (18%), Sudan (45%), Pakistan (56%), Mexico (72%) and the United States (99%) (Sampat, 2001).

1. Water pollution is as a result of industrial dumping, sewage drainage, and runoff of the byproducts of agricultural chemicals. The combined effects of global water pollution are causing a noticeable scarcity, water reserves (in major aquifers) are decreasing by an estimated 200 trillion cubic meters each year. The problem stems from the depletion and pollution of the world's groundwater. "In Bangladesh, for instance, perhaps half the country's population is drinking ground water containing unsafe levels of arsenic...By inadvertently poisoning groundwater, we may turn what is essentially a renewable resources into one that

cannot be recharged or purified within human scales, rendering it unsafe Woods, R. (August 3, 2001). EPA estimates costs of clean water TMDL program. Environmental News, EPA Headquarters press release, 1.(Bloom, and Morton, 1991). it is estimated that the United States will have to spend \$4.3 billion dollars annually to implement one of the tools under the Clean Water Act for cleaning up the nation's waters (Buchholz, 1992). It will require an integrated global effort of public and private groups, of individuals and corporations to begin planning and implementing massive recycling, water protection and control. Many companies have already begun conservation efforts. Xerox has halved its use of dichloromethane, a solvent used to make photoreceptors. The firm also reuse 97 per cent of the solvent and will replace it with a nontoxic solvent. The Netherlands has a national goal of cutting wastes between 70 to 90 per cent.

HAZARDOUS WASTE AND LAND POLLUTION

The United States produces an estimated 212 million tons of hazardous waste each year – about a ton for each man, woman, and child in this nation. The vast bulk of this is refinery or chemical waste. Output of hazardous waste is estimated to be growing at the rate of about 3 per cent per year (Marks, 2000). In the United States, individuals and industries throw out 400,000 tons of solid waste – trash – each day. Landfills are overflowing, while communities are fighting the addition of dump and incineration sites in their areas. NIMBY (“Not in My Back Yard”) groups are protesting site proposals due to the side effects of air and underground water pollution from trash dumping (Armstrong, 1999). Cleaning up dumps has been continues to be the goal of the EPA and its Superfund toxic waste law – now 20 years old. The Congress-backed fund has restored 220 dangerous sites. Now the EPA has proposed a \$460 million plan to dredge “hot spots” in a 40-mile stretch of the Hudson River in New York in order to take out 1 million pounds of toxic chemicals. General Electric (GE) is reportedly fighting the EPA effort. The EPA claims GE dumped Polychlorinated biphenyls (PCBs) over 30 years and is now trying to shirk its responsibility (Steiner, 1991).

The US military is a major source of international pollution. Hazardous waste generated by the Air Force, including pesticides, chemical residues, insecticides, gasoline, mercury, and bacteria, has, according to a Pentagon report, caused serious environmental problems at bases in Greenland, Spain, Japan, Panama, Italy, Iceland, and the United Kingdom. The Pentagon spent ~ \$165 million on environmental projects internationally in 1999. Domestically, the military spends \$1.72 billion annually to clean up contamination at the sites (Marks, 2000).

CAUSES OF ENVIRONMENTAL POLLUTION

Some of the most pervasive factors that have contributed to the depletion of resources and damage the environment are as follows:

- *Consumer affluence.* Increased wealth – as measured by real personal per capita income – has led to increased spending, consumption, and waste.
- *Materialistic cultural values.* Values have evolved to emphasize consumption over conservation – a mentality that believes in “bigger is better” “me first,” and a throwaway ethics.
- *Urbanization.* Concentrations of people in cities increase pollution, as illustrated by the examples of Los Angeles; New York City; Mexico City; Sao Paulo, Brazil; and Santiago, Chile, to name a few.
- *Population explosion.* Population growth means more industrialization, product use, waste, and pollution.
- *New and uncontrolled technologies.* Technologies are produced by firms that prioritize profits, convenience, and consumption over environmental protection. While this belief system is changing, the environmental protection viewpoint is still not mainstream.
- *Industrial activities.* Industrial activities that, as stated earlier, have emphasized depletion of natural resources and destructive uses of the environment for economic reasons have significantly caused environmental decay(Armstrong, 1999).

ENFORCEMENT OF ENVIRONMENTAL LAWS

A number of government regulatory agencies have been created to develop and enforce policies and laws to protect the general and workplace environments. The Occupational Safety and Health

Administration (OSHA), the Consumer Product Safety Commission (CPSC), the Environmental Protection Agency (EPA), and the Council on Environmental Quality (CEQ) are among the more active agencies that regulate environmental standards. The EPA, in particular, has been a leading organization in regulating environmental abuses by industrial firms.

In 1970, the EPA's mission and activities concentrated on controlling and decreasing toxic substances, radiation, air pollution, water pollution, solid waste (trash), and pesticides. The EPA has since that time used its regulatory powers to enforce several important environmental laws: *The Clean Air Act of 1970, 1989, and 1990*: The latest revision of this law includes provisions for regulating urban smog, greenhouse gas emissions, and acid rain and for slowing ozone reduction. Alternative fuels were promoted and companies were authorized to sell or transfer their rights to pollute within same-state boundaries – before, pollution rights could be bought, sold, managed, and brokered like securities.

- *The Federal Water Pollution Control Act of 1972*: Revised in 1877, this law controls the discharge of toxic pollutants into the water.
- *The Safe Drinking Water Act of 1974 and 1996*: It established standards nationally for drinking water.
- *The Toxic Substance Control Act of 1976*: It created a national policy on regulating, controlling and banning toxic chemicals where necessary.
- *The Resource Conservation and Recovery Act (RCRA) of 1976*: this legislation provides guidelines for the identification, control, and regulation of hazardous wastes by companies and state governments. The \$1.6 billion Superfund, mentioned above, was created by Congress in 1980. It provides for the cleanup of chemical spills and toxic waste dumps. Chemical, petroleum, and oil firms' taxes help keep the Superfund going, along with US residents lives within four miles of a Superfund site. It is estimated that 10,000 sites still need cleaning, and it may cost \$1 trillion and take years to complete this work.¹²
- *Chemical Safety Information, Site Security, and Fuels Regulatory Relief Act of 1999*: it created standards for storing flammable fuels and chemical.

THE ETHICS OF ECOLOGY

Advocates of a new environmentalism argue that when the stakes approach the damage of the earth itself and human health and survival, the utilitarian ethic alone is an insufficient logic to justify continuing negligence and abuse of the earth. For example, Sagoff argues that cost-benefit analysis can measure only desires, not beliefs. In support of corporate environmental policies, he asks:

Why should we think economic efficiency is an important goal? Why should we take wants and preferences more seriously than beliefs and opinions? Why should we base public policy on the model of a market transaction rather than the model of a political debate?... [E]conomists as a rule do not recognize one other value, namely. Justice or equality, and they speak, therefore, of a "trade-off" between efficiency and our aesthetic and moral values. What about the trade-off between efficiency and dignity, efficiency and self-respect, efficiency and the magnificence of our natural heritage, efficiency and the quality of life?(Post et al 2001). This line of reasoning raises questions such as these: What is human life worth? What is a "fair market" price or replacement value for Lake Erie? The Atlantic Ocean? The Brazilian rain forests? The stratosphere? Five arguments from those who advocate for corporate social responsibility from an ecology-based organizational ethic include the following:

- Organizations' responsibilities go beyond the production of goods and services at a profit.
- These responsibilities involve helping to solve important social problems, especially those they have helped create.
- Corporations have a broader constituency than stockholders alone.
- Corporations have impacts that go beyond simple marketplace transactions.
- Corporations serve a wider range of human values than a sole focus on economic values can capture.

Although these guidelines serve as an ethical basis for understanding corporate responsibility for the environment, utilitarian logic and cost-benefit methods will continue to play key roles in

corporate decisions regarding their uses of the environment. Also, judges, courts, and juries will use cost-benefit analysis in trying to decide who should pay and how much when settling case-by-case environmental disputes. Some experts and industry spokespersons argue that the cost of the further controlling pollutants such as smog outweigh the benefits. For example, it is estimated that the cost of controlling pollution in the United States has exceeded \$160 billion (Sagoff et al, 1990). A WHO study has estimated that air pollution will cause 8 million deaths worldwide by 2020. How many lives would justify spending \$ 160 billion annually? While some benefits of controlling pollution have been identified, such as the drop in emissions, improvement of air and water quality, cleanup of many waste sites, and growth of industries and jobs related to pollution control environmental (products. Tourism, fishing, and boating), it is not clear whether these benefits outweigh the costs. Measuring environmental costs and benefits is, as noted above, difficult. One question sometimes asked regarding this issue is, Would the environment be and have been better off *without* the environmental laws and protection agencies paid by tax dollars? An innovative way of integrating ethics and marketing is discussed in the following section.

GREEN MARKETING, ENVIRONMENTAL JUSTICE, AND INDUSTRIAL ECOLOGY

An innovative trend in new ecology ethical thinking is linking the concepts of green marketing, environmental justice, and industrial ecology (EPA, 1990). Green marketing is the practice of "... adopting resource conserving and environmentally-friendly strategies in all stages of the value chain." ¹⁶the green market was estimated at 52 million households in the United States in 1995. One study identified trends among consumers surveyed in Germany said they would switch, as would 84 per cent in Italy and 82 per cent in Spain. Companies are adopting green marketing as a competitive advantage and are also using green marketing in their operations: for example, packaging materials that are recyclable; pollution-free production processes, pesticide-free farming, and natural fertilizers.

Environmental justice is "the pursuit without discrimination based on race ethnicity, and /or socioeconomic status concerning both the enforcement of existing environmental laws and regulations and the reformation of the public health policy." Linking environmental justice to green marketing involves identifying those companies that would qualify for visible, prestigious awards – as the Eddison Award – for producing the best green products. To win the award, companies would demonstrate that they had. For example, (I) produced new products and product extensions that represented an important achievement in reducing environmental impact, (II) indicated where and how they had disposed of industrial and toxic materials, and (III) incorporated recycling and usefulness toxic materials in their strategies and processes. The green marketing and environmental justice link to industrial ecology is made in the long-range vision and practice of companies' integrating environmental justice into sustainable operational practices on an industry wide basis. Industrial ecology is based on the principle of operating within nature's domain – that is, nothing is wasted or forever discarded; everything is recycled.

RIGHTS OF FUTURE GENERATIONS AND RIGHT TO A LIVABLE ENVIRONMENT

The ethical principles of rights and duties regarding the treatment of the environment and multiple stakeholders are (I) the rights of future generations and (II) the right to a livable environment. These rights are based on the responsibility that the present generation should bear regarding the preservation of the environment for future generations. In other words, how much of the environment can a present generation use or destroy to advance its own economic welfare? According to ethicist John Rawls, " Justice requires that we hand over to our immediate successors a world that is not in worse condition than the one we received from our ancestors."

The right to a livable environment is an issue advanced (Blackstone, 1974). The logic is that each human being has a moral and legal right to a decent, liable environment. This "environmental right" supersedes individuals' legal property rights and is based on the belief that human life is not possible without a livable environment. Therefore, laws must enforce the protection of the environment based on human survival. Several landmark laws have been passed, as noted earlier, that are based on the logic related to Blackstone's "environmental right" than on a utilization ethic.

VALUE-BASED STAKEHOLDER MANAGEMENT PRACTICES AND THE ENVIRONMENT

New assumptions and practices driving corporate changes toward the environment include the following:

- The international community, led by Europe, is embracing laws that establish supply chain “environmental management systems” to protect the environment. Instead of setting up environmental, health, and safety (EH&S) functions in organizations, new business and supply chain models are invented that integrate environmental sustainability into core organizational design, production, financial, and marketing strategies and systems (Rosen, 2001).
- A green market, discussed above, is emerging. Rising energy costs create incentives to design and sell more energy-efficient products. Shareholders see environmental efficiency standards as competitive advantage for increasing revenues. Governments and non profits are developing eco-labeling and certification programs (e. g. ISO 14000 environmental standards, EPA’s Energy Star Program, Germany’s Blue Eagle Program) enabling firms to use these certifications to advertise environmentally superior manufacturing processes.
- Entrepreneurs and corporate leaders are developing innovative environmentally friendly strategies for humanitarian motives to protect and sustain the ecological system; Tom’s of Maine, Ben & Jerry’s. Shell, and Hewlett-Packard are only a few examples.

Hewlett-Packard’s (HP’s) historical movement across the responsibility spectrum in addressing its concern for the environment is instructive. In the 1980s, HP took a pollution control and prevention approach by using *risk management* and facility improvement to reduce toxic materials and emissions in its operations. In the 1990s, the company shifted its focus to *product stewardship* and developed a function that tracked and managed global regulatory compliance issues, customer inquiry response systems, public policy, green packing, and other product life cycle issues. At the turn of this century, HP is focusing on *sustainability*; that is, it is developing technologies that positively impact the environment. The firm is also integrating environmental sustainability into its business strategy.

RECOMMENDATIONS TO MANAGERS

Boards of directors, business leaders, managers, and professionals should ask four questions regarding their actual operations and responsibility toward the environment:

1. How much is your company really worth? (This question refers to the contingent liability a firm may have to assume depending on its practices.)
2. Have you made environmental risk analysis an integral part of your strategic planning process?
3. Does your information system “look out for” environmental problems?
4. Have you made it clear to your officers and employees that strict adherence to environmental safeguarding and sustainability requirements are a fundamental tenet of company policy?

Using the answers to these questions, an organization can determine its stage on the corporate environmental responsibility profile (Table 3).

Table 3: 5 STAGES OF ENVIRONMENTAL CORPORATE COMMITMENT			
Stage	Manager Mindset	Resource Commitment	Top-Level Support & Involvement
1. Beginner	Environmental management unnecessary	Minimal resource commitment	No involvement
2. Firefighter	Environmental issues addressed when necessary	Budgets for problems as they occur	Piecemeal involvement
3. Concerned citizen	Environmental management is a worthwhile function	Consistent yet minimal budget	Commitment in theory
4. Pragmatist	Environmental management is an important business function	Generally sufficient funding	Aware and moderately involved
5. Proactivist	Environmental management is a priority item	Open-ended funding	Actively involved

SOURCE: Adapted from Christopher B Hunt and Ellen R Auster, "Proactive Environmental Management": Avoiding the Toxic Trap," *Sloan Management Review*, Winter 1990, p. 9. Permission granted by the publisher, Copyright 1990 by the Sloan Management Review Association. All rights reserved.

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