A New Era of Corporate Competition Based on Environmental Factors — The Need for Environmental Assessments of Companies

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Environmental problems will be a key area of concern for the global community in the 21st century. A sustainable global community — one that preserves limited resources and the natural ecology — will necessitate resource conservation and the reduction of environmental loads across all human activities.

This paper focuses on the relationship between corporate management and the environment. After noting the qualitative and structural changes in the relationship, we examine the beginnings of an era in which environmental factors will play a key role in corporate competition, and discuss the need for environmental assessments of companies.

1. Qualitative and Structural Changes in Environmental Problems

Environmental problems have undergone a fundamental shift from localized industrial pollution to a new category characterized by global environmental problems.

(1) Industrial Pollution — Identifiable Sources, Clear Remedies

In the industrial pollution problems that afflicted Japan from the 1960s, the source of pollution and the damage caused could be traced to specific businesses and specific actions. These problems could be dealt with satisfactorily with “end-of-pipe” regulations that restrict emissions of air and water pollutants from factories.

(2) A New Category of Environmental Problems — Non-Specified Environmental Loads

However, environmental problems became global in scale in the 1980s with global warming, acid rain, and depletion of rain forests. The 1990s have posed acute problems involving waste disposal sites and harmful chemical pollutants such as environmental hormones (hormone-like environmental pollutants). Unlike industrial pollution, these newly recognized problems are derived from environmental loads generated in the daily activities of businesses and individual which taken individually are small,

but can have a regional or even global impact when aggregated.

What has become clear is that to control and reduce environmental loads, conventional controls on specific environmentally harmful actions are ineffective — we must systematically alter the society and economy so that people adopt new lifestyles and companies reengineer business processes.

Just as industrial pollution has characterized the environmental problems of the twentieth century, new forms of environmental problems — global environmental problems, waste disposal, and harmful chemical pollutants — have emerged to confront humankind in the next century.

2. Change in Approach to Environmental Regulation

In line with the qualitative and structural changes in environmental problems, Japan's environmental policies have followed those of other industrialized nations in shifting from direct end-of-pipe regulations on industrial pollution, to market oriented measures that encourage creative solutions to reducing environmental loads and costs.

(1) End-of-Pipe Regulations of the 1970s

The 1990s decade was not the first time that Japan enacted a set of environmental laws. During a brief period around 1970, numerous anti-pollution laws were passed to regulate air, water, noise, odor, and waste disposal, and the Environment Agency was set up in 1971.

These earlier laws were end-of-pipe regulations that required companies to comply with emission standards for gases, water and noise emanating from production sites. Companies complied with the legal emission standards by installing treatment facilities for gas and water emissions. The controls were viewed as having negative effects because they restricted operations and increased costs.

Yet from a different viewpoint, as long as companies complied with the emission standards, they could carry on operations under the same conditions and avoid penalties. Thus the pollution controls of this era had little to do with encouraging corporate competition to resolve environmental problems.

(2) The Market Oriented Approach of the 1990s

Since the 1980s, a new regulatory approach to environmental problems has relied on market forces to encourage companies to find creative solutions. Diverse and complex regulations have been implemented to reduce carbon dioxide and other greenhouse gas emissions, curtail household and corporate waste generation while actively promoting recycling, and introduce the PRTR system (pollutant

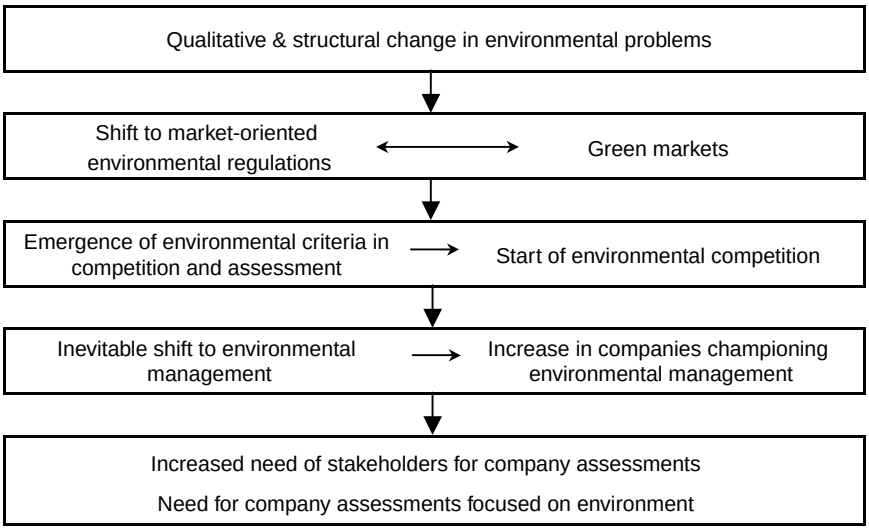
release and transfer register) for reporting and registering potentially harmful emissions and transport of waste.

While these market oriented measures do not relieve companies of environmental cost burdens, the manner in which companies respond can impact their corporate competitiveness and business performance. For companies, the risk of being unable to comply with regulations is clearly growing.

Prominent environmental laws passed in the 1990s include a packaging recycling law, home appliance recycling law, and revised energy conservation law, all of which mainly apply to manufacturers. In May 2000, the restaurant and distribution industries were addressed with the food recycling law (which promotes turning food waste into fertilizer), and the construction industry with the construction materials recycling law. In addition, the law to promote the effective use of resources was revised to promote conservation of resources and recycling of components.

Also enacted were the green procurement law, which promotes government purchases of environmentally friendly products, and the basic law to promote a recycling oriented society. These laws form the legal framework for waste management and recycling.

Figure 1 New Environmental Problems and the Environmental Competition of Companies



Source: NLI Research Institute

3. Green Markets

Along with the new regulatory approach of the 1990s, there has been a growing trend to emphasize environmental considerations in the product and service markets — also known as the greening of

markets.

(1) Internalization of Social Costs

Under the Packaging Recycling Law (enacted in 1995, and put into effect in stages from 1997), consumers have begun sorting discarded packages into the categories of glass bottles, PET bottles, steel and aluminum cans, and paper packs. Municipal waste collectors then collect these packages separately, and business operators retrieve and re-use them. Recycling costs are borne by businesses, and the cost of re-using the containers is estimated to reach ¥10 billion per year nationwide.

Prior to the law, the cost of recycling packages impeded efforts to reduce the volume of waste materials through recycling. But by applying market principles to recycling costs, the law internalizes what had been social costs (external diseconomies). Companies are already adopting a long-term perspective and converting to lighter, simpler packages and reusable materials.

(2) Environmental Costs from an Investment Perspective

The Appliance Recycling Law (enacted 1998 and takes effect in 2001) mandates the re-use of discarded home electrical appliances (initially limited to the four categories of air conditioners, televisions, refrigerators, and washers). Under the law, consumers must return discarded appliances to retailers, who then deliver the products to their respective manufacturers. Unlike the packaging law, consumers must pay the recycling costs, in this case at the time of return. The cost transfer to consumers is expected to help suppress excessive consumption. As for businesses, the law encourages competition by setting recycling standards but allowing companies to decide where and how to perform recycling.

Thus companies that adopt the most efficient recycling methods can enhance their price competitiveness, while those who recycle inefficiently will suffer. Herein lies a fundamental difference from the pollution regulations of the 1970s, which entailed environmental costs to comply with emission standards — companies are encouraged to invest in ways that will differentiate their products and enhance competitiveness.

(3) Introduction of Market Principles

Compared to the appliance recycling law, the revised Energy Conservation Law (enacted in 1979, revised in 1998, and enforced in 1999) introduces even tougher market principles to encourage companies to take creative steps in reducing energy consumption (and hence carbon dioxide emissions). The key feature of the 1998 revision was the announcement of energy conservation standards for designated machines (automobiles, home appliances, and OA equipment) base on the “top runner method.” In this method, each company’s products must meet the standard set by the most energy efficient product

on the market. Companies that fail to follow government admonitions to improve product performance are subject to censure, administrative orders, or fines. Thus companies who cannot compete are forced to withdraw their products from the market.

By compelling companies to meet the highest energy saving standards on the market, the law affects not only the competitiveness of products but strikes at the heart of corporate survival. Given the apprehensions that Japan may fail to meet its greenhouse gas reduction targets under COP3(Third Conference of the Parties to the United Nations Framework on Climate Change), the scope of designated machines is expected to be expanded.

The PRTR Law (Pollutant Release and Transfer Register Law, enacted in 1999, taking effect in 2001) requires companies to measure and report emissions of specified chemical substances (maximum 300 types) released into the air, water, and ground, as well as wastes transferred off a site for treatment and disposal. However, this in effect requires companies to perform risk management of chemical substances, the cost of which is expected to be quite substantial.

While the best policy with respect to the PRTR system would be to avoid using any of the specified chemicals or similar chemicals, the system will require at minimum that current manufacturing methods and processes, raw materials, and product compositions be fundamentally revised. This will have significant implications not only in preventing direct contamination risk, but in avoiding the risk of rejection or exclusion from customers, and enhancing competitive advantage.

(4) Green Purchasing and Green Procurement

Green purchasing refers to the activity of purchasing products and services with the smallest environmental load, thereby encouraging companies to become more environmentally responsive. “Green consumers” — consumers who practice this approach — use their purchasing power in the consumer market to reward businesses that actively engage in environmental issues, and to prompt other businesses to do more.

However, despite the fact that many consumers are aware of green purchasing, the overall level of activity is rather low. This has been attributed to the higher price of acceptable products, and the lack of information on these products. For the green purchasing movement to make headway, product costs need to be reduced, and green purchasing needs to be promoted by providing consumers with comprehensive product information, including running costs for the use and disposal of products.

At the organizational level, the green purchasing movement has been rapidly growing among businesses, organizations, and government offices, thereby effectively promoting green markets. This is expected to shift market demand toward green products, thereby leading to lower prices.

Meanwhile, a “green procurement” movement has emerged led by large assembly and processing companies to procure raw materials and components meeting environmental specifications. The market has clearly become more selective regarding environmental factors. In the future, further progress is expected in business-to-business green transactions.

Figure 2 Environmental Regulations in the 1990s

1. Environmental risk prevention (broadly defined)	
* Revised Air Pollution Control Law	Rev. 1996
* Manifest system	Rev. 1997
* Revised Water Pollution Control Law	Rev. 1997
* Revised energy conservation law	Rev. 1998
* Law Concerning the Promotion of Measures to Cope with Global Warming	Est. 1998
* PRTR Law	Est. 1999
* Law Concerning Special Measures Against Dioxins	Est. 1999
2. Shift to a Recycling Society	
* Law Concerning the Promotion of the Use of Recyclable Resources	Enforced1991
* Packaging Recycling Law	Est. 1995
* Home appliance recycling law	Est. 1998
* Green purchasing law	Est. 2000
* Revised Waste Disposal and Public Cleansing Law	Rev. 2000
* Law to promote effective use of resources	Rev. 2000
* Food recycling law	Est. 2000
* Construction materials recycling law	Est. 2000
* Basic law to promote the formation of a recycling-oriented society	Est. 2000
3. Global standardization	
* ISO 14001 (enviornmental management system)	Issued 1996
* ISO 14015 (site assessment)	Expected 2001
* ISO 14020 (eco-labeling)	Issued 1998-99
* ISO 14040 (life cycle assessment)	Issued 1998-99

Source: Categorized by NLI Research Institute

4. The Start of Corporate Competition Based on Environmental Factors

(1) Emergence of the Environment as a New Condition for Competition

Unlike earlier anti-pollution laws, while the environmental laws of the 1990s impose significant cost burdens on companies, they also allow companies to respond with creative solutions and business decisions. Under this market-oriented approach, corporate survival will rest on the success of business strategies (environmental strategies) to enhance price competitiveness and business performance.

For example, in the manufacturing sector, reducing environmental loads in the various stages of manufacturing, use, and disposal of products requires reviewing raw material and component selection and procurement, production processes, distribution channels, volume and ease of dismantling and recy-

cling wastes, and packaging. Furthermore, the need arises for a “design for the environment” (DfE) approach based on product life cycle assessment (LCA) of environmental loads, while life cycle costing (LCC) will impact price competitiveness.

All this amounts to none other than reengineering from an environmental perspective. Companies will become clearly differentiated by the strategies they adopt, because such reengineering cannot be achieved with a follow-the-leader conformist mentality. In this sense, the environment has spawned a new competitive condition.

(2) Emergence of the Environment as a New Assessment Standard

Meanwhile, as green purchasing and procurement move ahead, the market will increasingly pressure companies to develop more environmentally compatible products and services. In the past, companies pursued product price, performance, and quality standards based on economic rationality, and the market approved this. In the future, the additional competitive condition of the environment will force companies to also pursue “environmental rationality.”

As a result, companies are even being expected to take the stance of reducing environmental loads across all activities. However, since the objective assessment of corporate environmental rationality (environmental performance) is difficult based on conventional assessment standards of economic rationality (financial performance), efforts are underway in Japan and elsewhere to develop appropriate environmental standards. Thus the environment has emerged simultaneously as a new assessment standard as well as a competitive condition.

(3) The Start of Environmental Competition

In the past, environmental considerations have had little effect in determining a company’s competitive position, nor have companies been scrutinized with environmental assessments. But with the rules of competition shifting from economic rationality alone to include environmental rationality, companies are already confronting a new era of environmental competition, where business success is tied to competitiveness in environmental factors.

5. The Inevitability of Environmental Management

(1) A Tidal Shift Toward Green Markets

The major changes occurring in Japan’s society and economy — aging population, globalization of industries and markets, advances in information technology, and growth of service industries — appear

to be consistent with the greening of markets. For corporate management, we must bear in mind that the green market movement is emerging concurrently with the decline of Japan's postwar corporate system, characterized by conformity and an isolationist mentality.

(2) Toward Proactive Environmental Management

For a long time, corporate environmental management has been reactive in nature, reluctantly complying with environmental controls while being monitored by consumer groups. However, once companies awaken to the tidal shift toward green markets, not only will they be complying with regulations, but they will make the inevitabe shift to a more proactive stance on environmental management by anticipating new regulations and market trends.

In the future, there is a fair chance that Japan will impose the so called carbon tax or enact a strict law to clean up contaminated soil along the lines of the U.S. Super Fund. As with other investments, past investments in the environment will yield benefits today, and today's investments will pay off in the future

(3) Seven Principles of Environmental Management

Environmental management refers to the development and execution of environmental strategies to assure sustained corporate growth. There are seven principles.[1]

1. Commitment of top management to environmental preservation
2. Development of an environmental plan and associated organizational structure
3. Participation of all employees
4. Efficient and effective use of management resources
5. Sustained effort to reduce environmental loads
6. Detection and aversion of environmental risks
7. Disclosure to stakeholders

An environmental management system (EMS) implements all seven principles. However, since the environmental approach of corporate management depends heavily on the awareness and resolve of top management, environmental management is bound to fail without an active commitment.

6. The Need for Corporate Environmental Assessments

A growing number of companies in Japan are publicizing their environmental management capabilities. Since the mid 1990s, numerous companies have received ISO 14001 certification and issue envi-

ronmental reports, while recently, some companies have been releasing environmental audits. However, there is as yet no established method for third-party assessments.

(1) Needs of Stakeholders

In addition to consumers, business customers and suppliers, companies are surrounded by a variety of stakeholders — groups with an interest in a company's activities such as shareholders, banks, investors, local residents, government agencies, and environmental NPOs. As the severity of environmental problems has become clearer, stakeholders demand that companies be assessed on their environmental merits. They seek answers to questions such as: Which companies deserve support in the pursuit of environmental preservation? Which companies can be trusted on environmental matters? Which companies have high environmental risks?

(2) Environmental Concerns of Investors and Lenders

Notably, when making loan or investment decisions, financial institutions have recently started considering a company's environmental stance and environmental risks. In the past, environmental factors were excluded from consideration because of difficulties in determining their effect on a company's financial performance. But as corporate survival increasingly comes to involve an environmental dimension, asset managers are interpreting more broadly the prudent man rule — minimize risk, maximize returns, and preserve assets.

Last year in Japan, five companies began selling eco-funds (environmentally responsible stock investment trust funds). These funds are groundbreaking financial products in two respects — for confronting the issue of environmental responsibility, and for investing selectively in companies based on environmental criteria. However, we should note that the screening is above all else oriented toward finding good investments, and that the funds do not reveal their screening criteria or results.

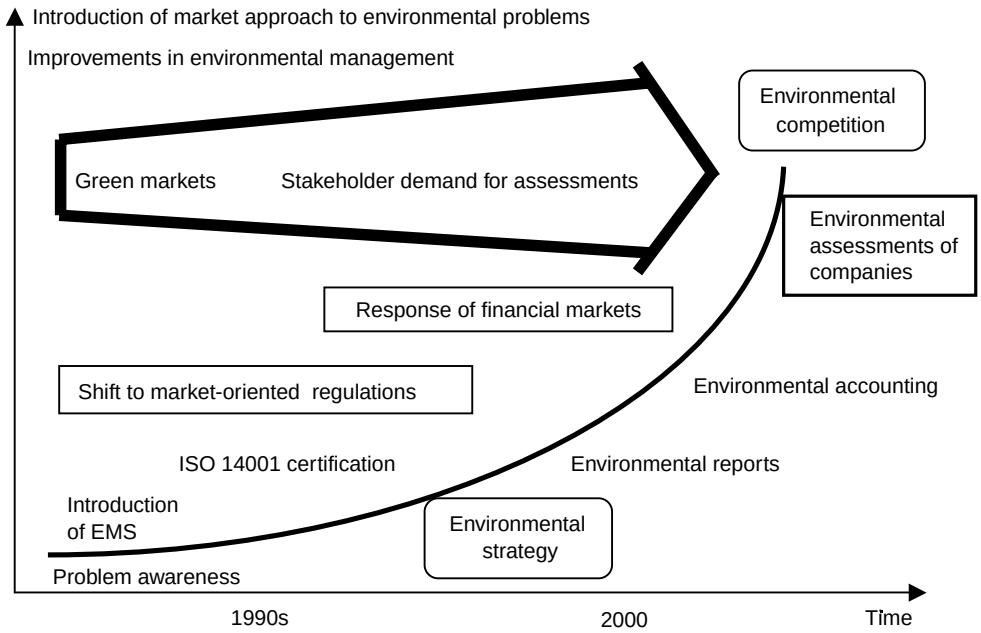
(3) In Search of Objective Criteria for Environmental Management

It is unlikely that poor environmental management will result in immediate business failure. But there is little doubt that in the future, competence in environmental management will become an increasingly important factor in price competitiveness, financing, and business performance — in short, that corporate survival will rest partly on environmental factors, and that poor environmental decisions could prove damaging.

Thus reliable third-party assessments of corporate environmental management will be needed in areas such as reduction of environmental loads, environmental cost efficiency, and avoidance of environmental risks.

For the near term, we urgently need to begin work establishing an objective assessment system for environmental management competence and reduction of environmental loads — on a detailed and comprehensive basis — and make the results readily available. In addition, the assessment system (including environmental ratings) needs to be consistent to enable comparisons across different industries.[2]

Figure 3 Evolution and Assessment of Environmental Management



Source: Compiled by NLI Research Institute

Notes

1. See Hiroyuki Tada, *Yoku Wakaru Kankyo Kaikei* (Understanding Environmental Auditing), Chuo Keizai-sha, 2000.

2. *Nissei Kisoken Shoho*, "Kigyo no Kankyo Kakuzuke (Shiron 1)," (Corporate Environmental Ratings: Version 1)," Summer 2000, vol. 14.