

Environmental Reporting in a Total Quality Management Framework

a primer

**Global Environmental
Management Initiative
(GEMI)**

About the Global Environmental Management Initiative

The Global Environmental Management Initiative (GEMI) is a group of leading companies dedicated to fostering environmental excellence by business worldwide. Through the collaborative efforts of its members, GEMI promotes a worldwide business ethic for environmental management and sustainable development to improve the environmental performance of business through example and leadership, and to enhance the dialogue between business and its interested publics. GEMI's member companies as of September, 1994 are:

AlliedSignal Inc.
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AT&T
The Boeing Company
Bristol-Myers Squibb Company
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The Coca-Cola Company
Colgate-Palmolive Company
Consolidated Rail Corporation
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Digital Equipment Corporation
The Dow Chemical Corporation
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Tenneco Inc.
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WMX Technologies, Inc.

The guidance included in this primer is based on the professional judgment of the individual collaborators listed in the Acknowledgments. The comments incorporated in the primer are those of the individual collaborators and not their organizations. Neither GEMI, nor its consultants, nor the Law Companies Environmental Policy Center, are responsible for any form of damage that may result from the application of the guidance contained in this primer.

Preface

At its June 1993 annual meeting, GEMI formally recognized the importance of accurate corporate environmental reporting and established a special work group to study this critical issue. In turn, the work group determined that an environmental reporting project was a necessary component of the group's overall strategic plan.

GEMI was an early supporter of the 16 principles set forth by the International Chamber of Commerce (ICC) in its Business Charter for Sustainable Development. Principle 16 focuses directly on environmental reporting. It says businesses should:

- ◆ Measure environmental performance;
- ◆ Conduct regular environmental audits and assessments of compliance with company requirements, legal requirements, and the Charter principles themselves; and
- ◆ Periodically provide appropriate information to the board of directors, shareholders, employees, authorities and the public.

The ICC Charter clearly recognizes what many companies continue to discover on their own: measurement and reporting are fundamental components of sound environmental management — and that the internal reporting of environmental progress and compliance is inextricably intertwined with the development of environmental performance reports for various external audiences.

With this Environmental Reporting Primer, GEMI hopes to help companies put Principle 16 to work in their operations. The primer draws on the environmental reporting experiences of GEMI member companies and reflects GEMI's interest in applying Total Quality Management tools — including measurement and reporting — to improve corporate environmental performance around the globe.

We hope you find this primer useful. Please direct comments to:

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Chapter 1.

INTRODUCTION

Every year, more and more companies around the world issue formal public reports on their environmental* performance. Although the development and release of such reports is a recent phenomenon, they have already gained wide acceptance as companies seek new and better ways to communicate about environmental issues with key stakeholders.

“Greater transparency regarding the environmental, health, and safety implications of industry’s actions is inevitable. Reporting is one way of creating greater transparency.”

— Wayne Carlson, Bristol-Myers Squibb

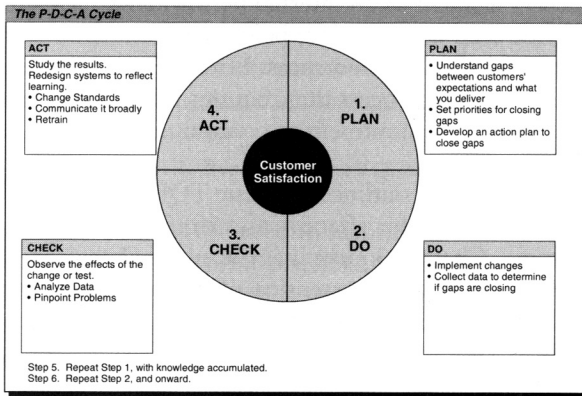


Figure 1. The Plan-Do-Check-Act Cycle

One key benefit of effective internal measurement and reporting of environmental results is the ability to “close the loop” as prescribed by the basic Total Quality Environmental Management (TQEM) paradigm shown in Figure 1. Measurement and reporting provide a mechanism whereby operating experience serves to identify areas in need of change and improvement in: overall environmental goals

* In this primer, the word “environmental” can be taken to mean health and safety as well, if those issues are applicable to the reader.

and plans, the systems used to implement the established goals, and in the measurement process itself.

In the TQEM context, environmental measurement and reporting can help:

- ◆ Identify problems before they occur;
- ◆ Target key areas for management attention and the possible expense of resources;
- ◆ Provide support for needed improvements in existing management systems; and
- ◆ Provide a realistic basis for setting future performance expectations and for holding line managers accountable.

Every company can benefit from an effective measurement and reporting program, even without issuing a formal public report. Moreover, every element of an internal performance measurement system does not need to be in place before environmental information can be provided to key audiences. Effective measurement and reporting is an ongoing process that requires the will to get started and a company-wide commitment to continuous improvement.

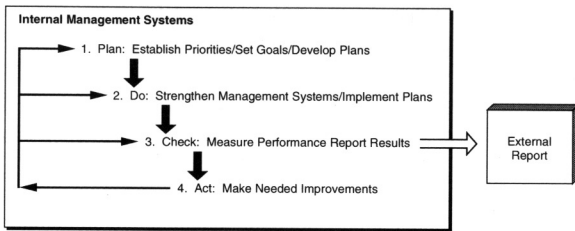
Chapter 2 of this primer outlines the basic TQEM framework many companies rely on for effective and efficient internal environmental reporting. Chapter 3 examines the external environmental reporting process as a logical extension of the internal reporting program. The primer concludes with a summation of key findings and a directory of additional resources.



Chapter 2.

TQEM: A ROADMAP TO EFFECTIVE MEASUREMENT AND REPORTING

Achieving corporate environmental excellence begins with a fundamental commitment to TQEM principles. Figure 2 translates the basic TQEM paradigm (Plan-Do-Check-Act) into a framework useful for understanding the role of measurement and reporting in corporate environmental management.



Source: Arthur D. Little, Inc.

Figure 2. Reporting in the TQEM Context

1. Plan. TQEM stresses the need to identify interested stakeholders and understand their expectations. Establishing a system to weight the stakeholders' various needs is necessary in order to establish corporate measurement and reporting priorities, as well as setting performance goals and developing action plans.

2. Do. The implementation of new measurement and reporting plans will drive the company's environmental management systems. If assessments reveal these systems to be deficient or nonexistent, strengthening overall environmental management also becomes a priority.

3. Check. Effective measures of environmental performance gauge the company's progress toward stated performance goals. Reporting allows managers to identify areas that require additional attention and improvement.

4. Act. With results in hand, a number of options become available to improve environmental performance. While the specific course

of action will vary depending on the data, there may also be a need to revise existing plans or goals, adjust the systems for implementation, reconsider the choice of performance measures, or reevaluate the reporting approach altogether.

Reporting should be an integral part of any overall internal environmental management system. Similarly, reporting is an excellent tool for communicating environmental information to important external stakeholders. Before that can happen, however, priorities, goals and appropriate measures must be established. Whether and when to report publicly is a separate decision, and one that can only be made after an effective internal reporting system has been built.

Establishing Priorities/Goals/Plans (Step 1)

The first step in putting a strong environmental performance reporting system in place is to review all pending environmental issues. The answers to the following questions will provide a good baseline from which to begin: What are the current, key environmental issues, and to what degree does environmental performance in the areas considered most important need improvement? These answers will also lead to the development of specific performance goals and action plans to achieve them.

The Business Charter for Sustainable Development: Principles for Environmental Management, published by the International Chamber of Commerce (ICC), is a useful tool to identify specific environmental issues for consideration. Figure 3 provides an overview of these issues. The full text of the ICC's principles is in Appendix One.

International Chamber of Commerce Principles for Environmental Management	
1. Corporate Priority	9. Research
2. Integrated Management	10. Precautionary Approach
3. Process of Improvement	11. Contractors and Suppliers
4. Employee Education	12. Emergency Preparedness
5. Prior Assessment	13. Transfer of Technology
6. Products and Services	14. Contributing to Common Effort
7. Customer Advice	15. Openness to Concerns
8. Facilities and Operations	16. Compliance and Reporting

Source: ICC Business Charter for Sustainable Development

Figure 3. Environmental Management Systems

Because it is not possible to tackle every improvement opportunity simultaneously, priorities must be identified. A complete understanding of the key stakeholders involved (i.e. those groups most interested in, and affected by, environmental performance) will help

guide decisions about which areas are most important and merit the greatest level of management attention and resources. Typically, these include employees, owners, lenders and insurers, consumers, local communities, regulators, and the general public.

Stakeholder	Possible Environmental Satisfaction Attributes
Employees	<ul style="list-style-type: none"> • Safe, healthful workplace • Safe product, minimal environmental impacts • Strong corporate environmental commitment
Owners Lenders/Insurers	<ul style="list-style-type: none"> • Cost-efficient use of staff, operating resources • Minimization of future risks and liabilities
Customers	<ul style="list-style-type: none"> • Safe product, minimal environmental impacts • Reduced packaging • Progressive company reputation
Community Regulators Public	<ul style="list-style-type: none"> • Full compliance with regulatory requirements • Low risk of exposures, adverse impacts • Openness to community, public concerns

Source: Arthur D. Little, Inc.

Figure 4. Stakeholder Needs

The priorities of each stakeholder group generally differ, often leading to a conflict over the allocation of resources. For example, programs to decrease plant site emissions, a community need, can compete for resources with efforts to minimize product packaging, a customer need. As a result, management must strike a balance among the interests of many stakeholders.

Establishing corporate environmental priorities often comes as the result of issues where multiple stakeholder interests coincide in support of movement in a common direction. Frequent chemical spills, for example, will affect each stakeholder group differently, but they will all be involved. In this example, the community would be concerned about the potential impact on the local environment, investors and insurers would worry about the financial consequences of remediation, and employees would be concerned about possible contamination.

These things take time... A 1994 GEMI survey indicated that most companies take a year or more to establish a new corporate environmental standard.

A TQEM approach can help assess the nature of the problem in question and help to develop an appropriate response based on the company's stated goals. A cause-and-effect, or "fishbone," diagram

— an indispensable TQEM tool — can help organize known and suspected causes of the continuing chemical spills cited in the earlier example, and distinguish between symptoms and underlying root causes.

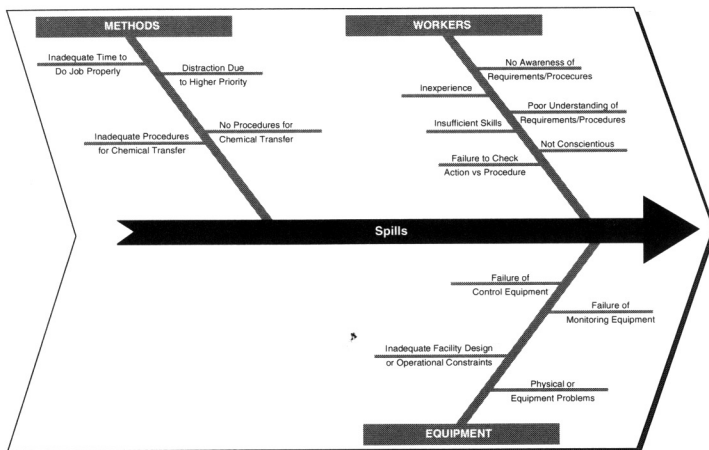


Figure 5. Cause-and-Effect Diagram of Spills

Using a Pareto chart, another valuable TQEM tool, to organize the quantitative information collected will highlight the areas that require improvement.

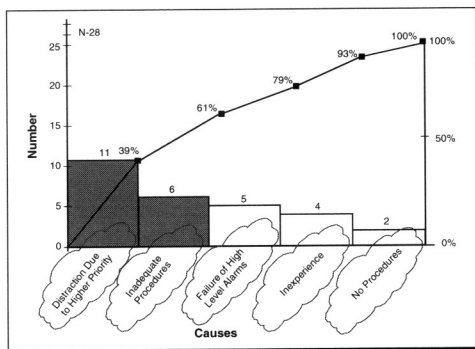


Figure 6. Pareto Chart of Causes of Spills

A TQEM investigation, in the example cited above, reveals that a lack of employee attention during chemical transfer operations is the major cause of the spills. Also important, albeit to a lesser degree, are inadequate procedures, failure of control equipment and inexperienced operators.

The implications of these results are straightforward, improvements can be made through: boosting employee attention during transfer operations, improving chemical transfer procedures, installing better control equipment, and enhancing employee training.

Acting on the results of this assessment, specific performance goals and program improvements can be made. In the chemical spill example, these goals might include:

- ◆ Eliminating spills completely by a certain date;
- ◆ Providing classroom training in chemical handling for all new employees, and refresher courses for all current employees;
- ◆ Developing comprehensive company guidelines for chemical transfers, including a requirement that an operator be present throughout the transfer operation; and
- ◆ Reviewing all storage tank high-level alarm systems and installing back-up systems as appropriate.

With its goals in place, action plans to achieve them can be developed. The plans should include specific steps for improvement at different organizational levels, as well as implementation schedules and assignments of responsibility and accountability. Achieving these goals requires that the results of routine measurements are reported to line and senior operating managers.

Goals important enough to pursue are important enough to track. Effective and routine measurement provides a performance gauge over time — and the ability to keep improvement programs on course.

Strengthening Management Systems/Implementing Plans (Step 2)

In most cases, the desire to achieve corporate environmental goals is the catalyst for developing improved internal environmental management systems and processes. To help companies assess the quality and effectiveness of their existing systems, GEMI developed the Environmental Self-Assessment Program (ESAP). With the 16 principles of the ICC Charter as its base, the ESAP sets out each principle as an essential feature of a sound environmental management system. The ESAP then breaks the principles into system elements, and poses questions and evaluative criteria to help pinpoint strengths and iden-

tify areas for improvement. The results provide information critical for planning major environmental program initiatives.

In the example cited earlier, an ESAP assessment, given the goal of improved compliance, would reveal management system deficiencies in:

- ◆ Resource Allocation (ESAP Element 1.3)
- ◆ Employee Training (ESAP Element 4.2)
- ◆ Internal Operating Standards/Practices (ESAP Element 8.1)
- ◆ Pollution Control and Reduction (ESAP Element 8.7)
- ◆ Progress Measurement (ESAP Element 16.2)
- ◆ Internal Performance Reporting (ESAP Element 16.3)

These elements, then, should be the focus of any improvement plan. The specifics of the plan itself will create opportunities for appropriate measurement and reporting.

Measuring Performance/Reporting Results (Step 3)

The most effective internal reporting systems incorporate two types of measures: results, or end-of-process measures, and activity/effort levels, or in-process measures to present a balanced picture of environmental progress toward established goals. While each type of measure will convey useful information, each has its drawbacks, especially if considered alone.

	End-of-Process Measures	In-Process Measures
Focus	Results (outputs)	Activity, status levels (inputs)
Approach	Quantitative	Quantitative, Qualitative
Example Measure	Number of hazardous waste notices of violation (NOVs)	Percent of facilities conducting regular hazardous waste management self-inspections
Weakness	Timelag in feedback loop; measured outcome also dependent upon regulators' effort level	Main stakeholder concerns may not be addressed; can also be more difficult to quantify

Source: Arthur D. Little, Inc.

Figure 7. Two Types of Environmental Performance Measures

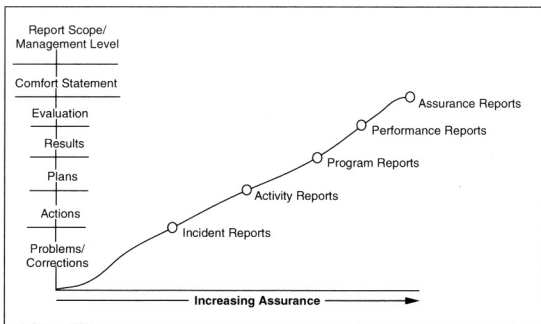
In the example cited earlier, the principal goal was to reduce the number of chemical spills. Correcting the root causes of the spills can take time, creating a lag between implementation of a correction program and realization of results. As a result, the company may want to supplement this end-of-process measure (less spills) with additional in-process progress reports.

Additional measures to achieve this would include:

- ◆ Percent of company employees who received classroom training in chemical transfer procedures;
- ◆ Percent of storage tanks upgraded with state-of-the-art, high-level monitors and back-up systems;
- ◆ Number of procedures modified to require an employee remain at the transfer site during the chemical transfer; and
- ◆ Spill response operations conducted under established rules for reporting, remediation and follow-up.

Still, these measures ultimately focus on interim results rather than a final outcome, creating the need to consider a combination of end-of-process and in-process measures.

Reporting the necessary information to the appropriate corporate officials is an important element in determining which measures are used. It is also a powerful tool for gaining needed management attention to corporate environmental performance. Similarly, different levels of company management require different degrees of assurance that environmental matters are being handled properly, i.e., before they become problems or crises.



Source: Arthur D. Little, Inc.

Figure 8. Internal Environmental Reporting for Management Assurance

Facility supervisory and operating managers, for example, want to know that day-to-day environmental issues are being monitored and possible corrective actions being considered. For their part, facility managers need evidence that environmental management plans are in place and planned activities are being implemented. Division and facility managers require periodic progress reports about the status of achieving the agreed-on goals. Ultimately, senior managers and the board of directors want an analysis of the results and an indication of how much work still needs to be done.

An effective internal environmental reporting scheme will provide the right type of information necessary at all management needs.

Making Needed Improvements (Step 4)

Effective environmental reporting can play a valuable role in internal management by:

- ◆ Tracking progress against corporate environmental goals and plans;
- ◆ Identifying areas for improving the effectiveness of key environmental management systems and processes; and
- ◆ Establishing clear expectations for managers' accountability for the company's environmental performance

The reported information will then be used to identify areas where management improvements need to occur.

Reporting that reveals little or no progress toward a specific goal, may cause management to reexamine existing plans and revisit Step 1 to perform additional problem assessments. In the example cited above, added analysis might reveal that although employees were required to remain at the transfer site during the chemical transfer, they were often forced to leave to answer intercom pages. Reporting this analysis might lead to the installation of a phone at the transfer facility.

If, for example, the problem of operators leaving the area is caused by something else, a more thorough assessment in Step 2 might reveal recent staff cutbacks have resulted in more work for the operators and, as a result, no single job is given the attention it deserves. Therefore, expectations for employee performance should be reexamined. Similarly, a review of employee responsibilities

might be in order. Possible solutions include increasing the number of operators or lightening the workload by upgrading equipment, eliminating unnecessary tasks or planning more efficiently.

Sometimes, reporting can provide a basis for calling into question a company's choice of what to measure. In the spill example above, one of the principal performance measure is the number of spills reported. The company might have adopted a different measure in Step 3, however, if management considered the implications of its heightened interest in tracking spills. Employees might begin recording spills that previously went unreported, for example, resulting in an apparent net increase in the number of spills, when in fact no real gain had occurred.

To accurately track progress toward reducing substantial spills, while separately monitoring smaller chemical spills, requires the establishment of a system to identify which incidents should be reported as spills and to assign a "spill severity level" to each one, along with prescribed remediation actions. Tracking high-, medium- and low-severity incidents separately is then possible.

Sound systems for measuring environmental performance can improve internal environmental management processes. Effective measures can also greatly facilitate environmental reporting to outside stakeholders. The remainder of this primer takes up the key issues of external environmental reports — why to do it, what to report on, how to make reporting credible and informative, and how to produce and distribute the final product.



Chapter 3.

EXTERNAL REPORTING

Going Public

Rationale. Today, stakeholders demand an unprecedented level of detailed information on corporate environmental performance. Outside groups, such as environmentalists and communities surrounding corporate facilities, coupled with internal groups, including employees and shareholders, are increasingly attentive to environmental concerns.

Reporting required by law — such as the U.S. Environmental Protection Agency's Toxics Release Inventory (TRI) — already creates unprecedented public access to a vast body of data on facilities, raw materials and emissions. The public reporting ultimately envisioned under the Eco-Management and Audit Scheme (EMAS) will likely lead to a similar situation one day in Europe. In today's world, where public opinion and not necessarily fact rules the day, presenting and interpreting this sensitive environmental information is critical and must be done by the company itself. Without this effort, the information void will be filled with a possibly biased and tainted analysis provided by others.

Partly in self-defense — and partly because they saw the need to differentiate themselves from their competitors — some companies now communicate their environmental performance information voluntarily to interested external groups considered important to their business. The issue for these companies is now how and to whom to report and not whether to continue.

External reporting has a number of primary benefits: it allows for the direct communication of important information to outside stakeholders; serves to demonstrate a corporate commitment to environmental protection; illustrates how environmental commitment can be translated into specific objectives, programs and actions; and documents the results of those actions as indicators of corporate environmental performance.

An effective program of external reporting is also an important first step in establishing a dialogue with outside groups. This dialogue

can help clarify stakeholder concerns and generate ideas for improving overall corporate environmental performance.

Building on Internal Reporting. To be credible and cost-effective, external environmental reporting should be a logical extension of the existing internal reporting systems. In fact, the priority for internal and external reporting is essentially the same: understanding and balancing stakeholder needs; assessing problems and identifying opportunities for improvement; establishing goals and plans; etc. As a result, TQEM's plan-do-check-act paradigm provide a helpful framework for external as well as internal reporting to key audiences.

A fundamental tenet of TQEM holds continuous improvement as its ultimate goal. Therefore, waiting to share information until all systems and measures are in place usually means that a program will never begin, because these systems are always changing. A company committed to better performance will recognize that programs and measures will inevitably evolve and grow stronger, with public reporting reinforcing the need for continuous improvement.

Figure 9 shows how three GEMI member companies use the TQEM framework to report a combination of end-of-process and in-process environmental performance measures to external audiences. In each case, the data and the systems that generated them are essentially the same as those used inside the company to report environmental progress to line managers and the board of directors.

	Dupont	Bristol-Myers Squibb	Procter & Gamble
Environmental Goal	"Reduce toxic air emissions by 60% from 1987 to 1993"	"Exercise responsible stewardship [for] ... waste and its minimization"	90% of plants worldwide at targeted rating for environmental management system capability by July 1995
Performance Measure	Toxic Release Inventory air emissions (lbs.)	U.S. nonhazardous solid wastes recycled (lbs.)	Target rating for plant environmental management systems capability
Feedback Mechanism(s)	Corporate Environmental Plan database; TRI Inventory data as reported to EPA	Environmental audits; product life cycle reviews	Annual environmental audits
Reported Improvement	45% decrease 1987-1992	440% increase in recycling of non-hazardous, solid waste 1989-1991	75% of plants worldwide meeting targeted rating as of July 1993

Source: Company reports

Figure 9. Environmental Reporting and TQEM: Implementation Examples from Three Examples

Considering Reporting Options

Deciding on how to report environmental progress externally requires examining several key elements.

Identifying and prioritizing key audiences, for example, is critical to the design and implementation of an effective external environmental reporting program.

Key Audiences. It is important to determine the type of information key stakeholder audiences need. These audiences include:

- ◆ Employees;
- ◆ Shareholders;
- ◆ Financial institutions (lenders, insurers, investors);
- ◆ Customers and consumers;
- ◆ Local communities;
- ◆ Environmental and citizen groups;
- ◆ Media and the general public; and
- ◆ Regulators.

*“Deciding why you’re doing this is essential.
Ask yourself, ‘What do I have to say?’ and
‘Who am I trying to reach?’”*

— Maria Bober, Eastman Kodak Company

Each stakeholder demands different information. Environmentalists, for example, frequently want more detailed data on plant emissions and releases. Consumers often want information about packaging, while both consumers and industrial customers are concerned about product stewardship issues. Digital Equipment Corporation, for example, is receiving an increasing number of requests for hard data on the environmental friendliness of its computer products.

A 1992 GEMI sponsored focus group, conducted by the Investor Responsibility Research Center (IRRC), found potential investors desire a balance of quantitative and qualitative data — i.e., information on goals, costs and liabilities, and company performance compared to relevant industry averages, as well as success stories and a straightforward discussion of specific problems.

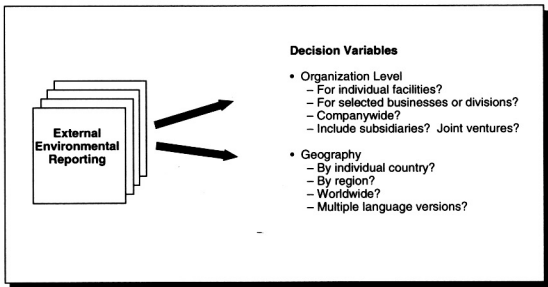
Reviewing past stakeholder requests for environmental information can help pinpoint the groups most likely to be interested in the final report. Other company personnel (i.e., public affairs and investor relations staff) can provide a helpful insight into current needs and attitudes of key stakeholders.

Reporting Vehicle. Finding the best way to communicate with the most important stakeholders will determine how the information is conveyed. To keep the reporting process manageable, many companies have opted to produce a single new, stand-alone document to appeal to as wide a variety of outside groups as possible.

Other companies have added environmental performance data to an existing vehicle. In 1993, for example, AlliedSignal incorporated health, safety and environmental performance information into its annual report to shareholders. Relying on multiple reporting vehicles tailored to reach specific target audiences (i.e., safety meetings for employees, facility advisory council meetings for plant neighbors, product package labels for customers, etc.) is also an option.

In the end, there is no single “correct” approach.

Report Scope. The scope of the external reporting effort can also be determined by a careful examination of the key audiences. As Figure 10 shows, organizational and geographic variables are particularly important. If the local community is a target audience, for example, preparing reports at the individual facility level may be desirable. But if shareholders are the principal target, providing data on the company as a whole, possibly including subsidiaries and joint ventures, makes the most sense. It may also be advantageous to report environmental progress at the country or regional level because stakeholder expectations toward environmental regulation and enforcement change from country to country and region to region. Language, of course, also is a key concern.



Source: Arthur D. Little, Inc.

Figure 10. Scope of External Environmental Reporting

Procter & Gamble, for example, publishes external environmental reports at the facility and country levels, as well as for the corporation as a whole. Dow Chemical, on the other hand, prepares separate environmental reports for its U.S. and European operations.

Report Frequency and Timing. Although most companies prepare external environmental reports annually, there are any number of other options available. For maximum impact, some companies release their environmental report with their annual report, or at their annual shareholders' meeting. The release can also coincide with other significant events such as Earth Day, or a special company event or celebration. The release of some environmental information is driven less by design than by the availability of important data, such as the Toxic Release Inventory emissions information.

"These things aren't easy to do. Anyone who says it's 1-2-3 is fooling himself."

— Leah Haygood, WMX Technologies

Before Reading Further

While assembling an external environmental report from scratch can be daunting, it is important to recognize that the initial effort is only a beginning and need not be perfect, but it must be honest. In fact, most companies develop their internal and external communications systems concurrently, adding more information as it becomes available. The key is to explain, at the outset, the desire to improve the process over time. Many readers will initially be pleased with the general recognition the report confers on them.

Getting the Content Right

A number of industry collaborative, public interest groups, and consulting organizations have recently published suggested standards or guidelines of the types of environmental information corporations should report externally. These include: the Public Environmental Reporting Initiative (PERI); the Investor Responsibility Research Center (IRRC); the United Nations Environment Program (UNEP); the Coalition for Environmentally Responsible Economies (CERES); the World Industry Council for the Environment (WICE); and by the International Institute for Sustainable Development (IISD), in conjunction with SustainAbility and Deloitte Tohmatsu International.

While each of these groups is referenced in the attached bibliography, Figure 11 provides a comparative summary of the content guidelines each put forward. The different prescriptions of each group results in a myriad of suggested content models.

“Some people want worldwide standards for environmental reports. We don’t even have worldwide financial accounting standards. It’s going to be a long process.”

— Polly Strife, Digital Equipment Corporation

	GEMI/IRRC FOCUS GROUP	PERI	UNEP	CERES
Air Emissions:				
Toxics Release Inventory	•	•	•	•
Greenhouse Gases		•		•
Ozone-Depleting Substances		•		•
Audit Information	•	•	•	•
Charitable Contributions		•	•	
Company Profile		•	•	•
Compliance Programs	•	•	•	•
Corporate Goals	•	•	•	
Corporate Policy	•	•	•	•
Customers/Consumers Programs		•	•	
EH&S Management Systems		•	•	
Emergency Response Plans		•	•	•
Employee Education/Involvement		•	•	•
Energy Consumption		•	•	•
Enforcement Actions	•	•	•	•
Environmental Awards			•	•
Environmental Staff Information	•	•	•	
Env. Impact Assessment/Risk Management		•	•	•
Expenditures	•	•	•	
Habitat Protection/Management		•	•	•
Hazardous Waste		•	•	•
Industry Associations	•	•	•	
Liabilities:				
Superfund	•			•
Remediation	•	•	•	
Litigation	•	•		
Lobbying Activity	•			
Management Systems	•	•	•	•
Materials Conservation/Recycling		•	•	•
Packaging			•	•
Permit Restrictions	•			•
Product Impacts		•	•	•
Product Stewardship		•	•	•
Research & Development	•	•	•	•
Solid Waste		•	•	
Spills/Incidents	•	•	•	•
Stakeholder Involvement	•	•	•	
Statement by Chief Executive			•	
Supplier Education/Cooperative Programs		•	•	•
Third-Party Verifiers Statement	•		•	
Water Conservation		•	•	
Water Effluents		•	•	
Workplace Hazards		•	•	•

Sources:

Institutional Investor Needs for Corporate Environmental Reporting

GEMI Stakeholder Communication Workgroup — September, 1992

The Public Environmental Reporting Initiative Guidelines — 1994

Company Environmental Reporting

United Nations Environment Programme/Industry & Environment — 1994

Guide to the CERES Principles

Coalition for Environmentally Responsible Economies — 1994

Figure 11. Environmental Reporting Guidelines of Various Organizations

From the TQEM perspective, stakeholders’ needs should determine the external report’s content. Specific performance measures vary among different companies, different industries, and in different geographic regions. The key is to examine the environmental issues of greatest importance, together with the goals and the key audiences, and then determine the most effective measures.

Figure 12 shows examples of environmental performance measures currently reported externally by several GEMI member companies. Company-by-company measures directly reflect the specific environmental concerns of the highlighted corporations. It is important to note that the companies listed report their results as measured against the specific goals they established for their operations.

	<i>AT&T</i>	<i>Dow Chemical</i>	<i>Procter & Gamble</i>	<i>Southern Company</i>	<i>WmW Technologies</i>
Emissions/Releases	CFC emissions from manufacturing operations; TRI toxic air emissions	Global emissions of TRI compounds global emissions of 33/50 priority toxics	U.S. emissions of TRI compounds	SO ₂ emissions (tons/year)	U.S. emissions of TRI compounds
Spills/Unplanned Releases		Total number of environmental incidents reported to governmental bodies			
Total Waste Generation	Total annual manufacturing process waste disposal (MM lbs./year)		Total lbs. of waste per average case of product per year	Total tons of SO ₂ and CO ₂ emissions avoided annually	
Recycling	Percent of paper waste recycled	Tons of U.S. TRI compounds recycled annually	Percent of paper packaging made from recycled material		Tons and \$ value of purchased goods with recycled content
Natural Resource Use/Conservation	Annual paper use (MM lbs./year)	Energy conversion efficiency (Btu/lb. of product) for all U.S. plants		Net heat rate at fossil fuel generating plants (Btu/KWH)	Truck fleet fuel efficiency (average miles/gallon)
Enforcement Actions		\$ Fines and penalties paid globally			\$ Fines and penalties paid globally

Source: Company reports

Figure 12. Illustrative Examples of Environmental Performance Measures Reported by GEMI Member Companies

“I don’t believe you can have cookie-cutter information for all industries. For example, recycling to consumer products companies is packaging and cans. For me it’s terminals.”

— Polly Strife, Digital Equipment Corporation

Dealing with Credibility Issues

External stakeholders are often skeptical about reported environmental performance information. Whenever possible, potential

credibility questions should be anticipated and preparations made to deal with them effectively during the reporting process.

Quantification. In general, Gresham's Law — hard data drives out soft data — applies with special force to the reporting of environmental information. Companies reporting hard information against quantitative goals are typically given more credit for being open and forthcoming. As a result, companies have made their external environmental reports more and more quantitative in recent years.

“More facts and data, less motherhood and apple pie. That's what we hear is necessary [today] for this report to be taken seriously. It's a change in how these reports are received.”

— Kirk Thomson, *The Boeing Company*

Still, many companies are wary of producing overly dry lists of numbers. The balance between quantitative and anecdotal information is hard to strike. Quantifying environmental performance is not simple, especially for large companies operating internationally with different standards, practices and metrics. In many cases, it may be acceptable to report environmental progress using quantitative performance measures that differ depending on geographic location — at least until internal management system requirements change. Existing environmental information and reporting systems, however, may not be able to uniformly capture and report a specific data element worldwide.

Too much quantitative information should also be avoided. WMX Technologies, Inc., for example, has published an annual external environmental report since 1991. The report, organized around the company's 14 stated environmental principles, provides a detailed, but still largely narrative, account of annual progress toward each principle. WMX considered but later rejected developing specific “measurables” for each principle. Instead, senior managers decided to focus quantitatively on a smaller number of measures to satisfy the information needs of internal and external users.

Among the specific measures used: reduction of hazardous waste generation; production of energy on-site; and site-by-site data on the implementation of the company's automated Compliance Management System (CMS). These measures, the company determined, are

needed by managers to run their businesses effectively, and address the legitimate environmental concerns of interested outside groups.

Finally, a system in its infancy may not produce any specific, quantitative measures immediately. While sophisticated readers will understand that “process” drives “performance,” stakeholders will likely want to see progress in the absence of hard data. Figure 13 shows how Bristol-Myers Squibb offered a non-quantitative progress report.

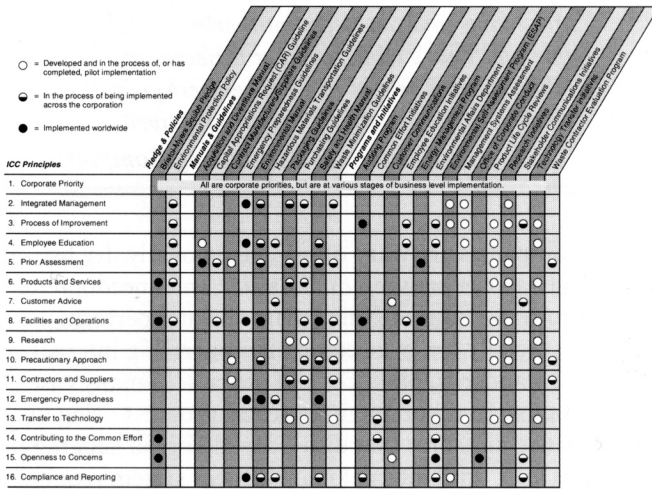


Figure 13. Example of Nonquantitative Presentation of Program Implementation Progress

“Don’t try to measure too much at once. Perfect the measures for those issues you’ve deemed critical for your company. Then move on.”

— Maria Bober, Eastman Kodak Company

Negative Information. A company’s willingness to present bad information along with good information is widely viewed as essential in establishing the credibility necessary to support an environmental report. While admitting corporate environmental shortcomings does pose a risk, the experience of GEMI member companies demonstrates the credibility and trust that comes as the result of greater openness more than offsets the risk.

“There’s always a reluctance in corporations to say anything negative about themselves. But I think once people get an environmental report [with full information] out the door, they’ll find their fears [of a hostile response] are allayed.”

— Jon Goldman, Coors Brewing Company

As noted in Figure 12, Dow Chemical and WMX Technologies use their annual environmental reports to list all of the environmental fines and penalties they paid worldwide in a particular year. In its initial environmental report, Bristol-Myers Squibb provided similar data for its U.S. operations, as well as a balanced narrative account of a major settlement with federal and state regulators regarding wastewater pretreatment violations at the company’s pharmaceutical facility in upstate New York. Browning-Ferris Industries also reports its environmental regulatory fines and penalties. Moreover, Browning-Ferris, WMX, and Bristol-Myers Squibb all go a step further and detail the number of Superfund sites at which they have been named as potentially responsible parties liable for cleanup costs.

Third-Party Verification. To enhance the credibility of the data they present, some companies have considered using an independent third party to verify the accuracy of their public environmental reports. Companies have generally rejected this option, however, because of the high costs involved in replicating the company’s internal measurements and data collection.

“Until there’s some understanding of what it really means, I don’t think many companies are going to pay for certification.”

— Tom Davis, AT&T

As a fallback position, many companies have decided to engage independent parties to assess the quality and effectiveness of their internal systems to collect, tally and verify environmental performance data. Although these companies strongly believe this limited third-party verification enhances the credibility of their report, it does so only to the underlying data management systems, and not to the data itself.

Other companies use third parties to evaluate their internal environmental audit program, publishing the results in public environmental reports, to show their environmental management systems can withstand external scrutiny.

Currently, it is difficult to conclude whether or not a new trend has emerged, but interest in third-party verification of corporate environmental reporting continues to grow. In fact, the voluntary Eco-Management and Audit Scheme in Europe anticipates using third-party verifiers for public environmental “statements” issued by corporations based on their own internal environmental audits.

Producing the Report

Report Preparation. Responsibility for assembling environmental reports varies, depending on the company’s organizational structure and its rationale for publishing the report. At many companies, report preparation duties belong to technical environmental personnel, while at others the communications group is responsible. Few companies have their public relations group prepare the text, largely because of credibility concerns. At Kodak, for example, data gathering for the company’s corporate environmental report is tasked to an environmental engineer who works closely with a combination of communications specialists and technical staff spread across more than 50 plants and product lines. A professional writer later helps prepare a draft for internal review. The final report is reviewed and approved by a senior-level management committee.

Figure 14 details Kodak’s current annual report preparation cycle, which requires just under four months to complete. Note: Kodak has been producing external environmental reports since 1991; for companies preparing a report for the first time, the production cycle may be considerably longer.

Days	Task
45	Request Input Bid Job
10	Prepare First Draft
3	Review First Draft
7	Prepare Second Draft
10	Review Second Draft
10	Compile Comments/Prepare Third Draft
1	Review and Revise
7	Review Fourth Draft (Management)
4	Compile Comments/Prepare Final Draft
10	Prepare/Approve Mechanicals/Blueprint
7	Printing
====	====
114 days	Total Preparation

Source: Eastman Kodak Company, 1993

Figure 14. Annual Environmental Report Production Schedule for Eastman Kodak

“Putting [the report] together took eight of the most agonizing months of my life. But we felt sure it was the right way to do it, especially after we saw the response.”

— Joe Judge, The Southern Company

Report Costs. The greatest cost in producing an external environmental report is the expense of time by staff and consultants who determine the report’s content, collect and compile the necessary data, write and edit the document, and secure needed internal approval.

Direct printing and production costs ranged from a few thousand dollars to \$100,000 for the GEMI member companies surveyed. Printing costs were determined by the number of reports produced; page length; use of color and photography; special cuts or folds; and the inclusion of reply cards. A series of tables quantifying the effect of these variables on printing costs is provided in Appendix Two. Figure 15 shows data on the estimated direct costs of selected GEMI member companies’ 1992 external environmental reports.

GEMI Member Company	Page Length	Number of Copies	Estimated Direct Cost
Boeing	20	5,000	\$30-40K
Bristol-Myers Squibb	40	10,000	\$50K
Kodak	24	25,000	\$40K
Southern Company	26	60,000	\$60-75K
WMX Technologies	185*	50,000**	\$100K***

*Full text version; separate Executive Summary at 40 pages
 **Executive Summary; 2,000 copies of separate full text version
 ***Covers both full text version and Executive Summary

Figure 15. Estimated Direct Costs of External Environmental Reports for Calendar Year 1992

“The \$50,000 we invested in our report is well spent if it demonstrated to one regulator, or environmentally sensitive retailer or wholesaler, that our company is committed to responsible EHS management.”

— *Wayne Carlson, Bristol-Myers Squibb*

Report Distribution. In general, GEMI member companies circulated anywhere from a few thousand to several hundred thousand copies of their reports. Whether or not to give all employees a copy of the report is the primary factor in determining how many to produce.

Even at companies where workers are considered the highest- priority audience, environmental reports do not necessarily go to all employees. The reasons cited: cost concerns, along with efforts to minimize solid waste. AT&T is an exception. They printed a slimmed-down version (minus the color pictures, but with the text unchanged) of the report for its 330,000 employees. AT&T distributed 50,000 copies of the full-color report. Many companies provide copies on request.

The report should always be distributed to internal environmental decision-makers and to officials who deal with external stakeholders potentially concerned about environmental performance. Such a distribution list would include: executives; high-level general man-

agers; environmental management staff; public affairs, communications and legal personnel; marketing managers; and others.

Remember: the same colleagues who helped determine stakeholder needs and attitudes can assist in transmitting the report. The sales force, for example, can deliver the report to customers during sales calls. Investor relations staff can distribute the report to their key audiences. The community relations staff can make the report available during facility tours as well.

A letter from top managers encouraging wide distribution of the report to all stakeholders will significantly boost internal responsiveness as well as the report's visibility among key external audiences.

Continually Improving the Product

The environmental reporting process can always benefit from continuous improvement, whether reports are issued externally or simply used as an internal management tool.

For companies producing external environmental reports, reader feedback is an important part of continuous improvement. Companies have used preprinted response forms, postage-paid reply cards, and toll-free telephone numbers to collect this information. Many companies, however, have found that these particular methods are effective only with employees. Focus group testing of participants representing a cross-section of key audiences can help collect valuable information.

WMX Technologies has used focus groups to gather feedback, and includes notes from focus group discussions in its environmental report. The purpose of the sessions is not to obtain an endorsement of the report. Including the focus group information in the report demonstrates the company is listening to its key stakeholders. Bristol-Myers Squibb sought feedback on its first environmental report by circulating it to selected groups for pre-publication review.

While effective internal reporting can lead to improvements in management systems that influence environmental performance, improved management systems can also create their own demand for strengthened environmental reporting. Continually improving reporting systems relies on consulting with a cross section of company personnel. Ask line managers, for example, if existing reporting mechanisms are effective. Regularly consulting senior managers

about whether the company's current reporting approaches allow them to set meaningful corporate environmental performance goals while holding line managers accountable is also key.

The companies who will be the most successful at environmental reporting are those who apply the same discipline to it as they do reporting in other elements of their business.



Chapter 4. CONCLUSION

External reporting on corporate environmental performance is a challenge and a commitment. Choosing how to respond to the demand for more environmental information centers on the following general principles:

- ◆ Performance measurement and environmental reporting are fundamental to effective environmental management.
- ◆ Measurement and reporting are basic internal management tools best applied within a Total Quality Environmental Management (TQEM) framework.
- ◆ Measurement should be driven by internal management systems designed to deliver results and meet goals that reflect an appropriate balance among the interests and expectations of all of the company's key stakeholders.
- ◆ Effective internal reporting systems typically incorporate end-of-process and in-process measures of environmental management performance.
- ◆ Reporting environmental performance to management closes the loop, and allows improvements to be made to existing goals and plans, as well as management systems and reporting processes.
- ◆ Using environmental measurement and reporting to address the information needs of key external stakeholders — financial institutions, customers, communities, regulators, environmental groups and the public — is an important step toward establishing a dialogue.
- ◆ An effective reporting program can help differentiate a company from its competitors by demonstrating an environmental commitment, translating that commitment into specific goals and actions, and documenting overall progress.

Additional information and resources are available in the attached bibliography.

APPENDIX ONE: The ICC Business Charter for Sustainable Development: Principles for Environmental Management

1. Corporate Priority

To recognize environmental management as among the highest corporate priorities and as a key determinant to sustainable development: to establish policies, programs and practices for conducting operations in an environmentally sound manner.

2. Integrated Management

To integrate these policies, programs and practices fully into each business as an essential element of management in all its functions.

3. Process of Improvement

To continue to improve corporate policies, programs and environmental performance, taking into account technical developments, scientific understanding, consumer needs and community expectations, with legal regulations as a starting point, and to apply the same environmental criteria internationally.

4. Employee Education

To educate, train and motivate employees to conduct their activities in an environmentally responsible manner.

5. Prior Assessment

To assess environmental impacts before starting a new activity or project and before decommissioning a facility or leaving a site.

6. Products and Services

To develop and provide products or services that have no undue environmental impact and are safe in their intended use, that are efficient in their consumption of energy and natural resources, and that can be recycled, reused, or disposed of safely.

7. Customer Advice

To advise, and where relevant educate, customers, distributors and the public in the safe use, transportation, storage and disposal of products provided; and to apply similar considerations to the provision of services.

8. Facilities and Operations

To develop, design and operate facilities and conduct activities taking into consideration the efficient use of energy and materials, the sustainable use of renewable resources, the minimization of adverse environmental impact and waste generation, and the safe and responsible disposal of residual wastes.

9. Research

To conduct or support research on the environmental impacts of raw materials, products, processes, emissions and wastes associated with the enterprise and on the means of minimizing such adverse impacts.

10. Precautionary Approach

To modify the manufacture, marketing or use of products or services or the conduct of activities, consistent with scientific and technical understanding, to prevent serious or irreversible environmental degradation.

11. Contractors and Suppliers

To promote the adoption of these principles by contractors acting on behalf of the enterprise, encouraging and, where appropriate, requiring improvements in their practices to make them consistent with those of the enterprise; and to encourage the wider adoption of these principles by suppliers.

12. Emergency Preparedness

To develop and maintain, where significant hazards exist, emergency preparedness plans in conjunction with the emergency services, relevant authorities and the local community, recognizing potential transboundary impacts.

13. Transfer of Technology

To contribute to the transfer of environmentally sound technology and management methods throughout the industrial and public sectors.

14. Contributing to the Common Effort

To contribute to the development of public policy and to business, governmental and intergovernmental programs and educational initiatives that will enhance environmental awareness and protection.

15. Openness to Concerns

To foster openness and dialogue with employees and the public, anticipating and responding to their concerns about the potential hazards and impacts of operations, products, wastes or services, including those of transboundary or global significance.

16. Compliance and Reporting

To measure environmental performance, to conduct environmental audits and assessments of compliance with company requirements, legal requirements and these principles; and periodically to provide appropriate information to the Board of Directors, shareholders, employees, the authorities and the public.



APPENDIX TWO: The Effect of Design Choices on Production Costs

Table One: 500 Copies
(8½×11 — cut, fold, saddle stitch)

Number of Colors	Number of Pages	Cost Per Copy	Total Cost
1	12	\$4.05	\$2,025
1	24	\$5.88	\$2,940
1	48	\$7.58	\$3,790
3	12	\$13.23	\$6,615
3	24	\$19.94	\$9,970
3	48	\$26.38	\$13,190
5	12	\$16.93	\$8,465
5	24	\$25.21	\$12,605
5	48	\$33.44	\$16,720

Table Two: 5,000 Copies
(8 1/2 x 11 — cut, fold, saddle stitch)

Number of Colors	Number of Pages	Cost Per Copy	Total Cost
1	12	\$.67	\$3,350
1	24	\$1.00	\$5,000
1	48	\$1.55	\$7,750
3	12	\$1.65	\$8,250
3	24	\$2.51	\$12,550
3	48	\$3.60	\$18,000
5	12	\$2.03	\$10,150
5	24	\$3.06	\$15,300
5	48	\$4.36	\$21,800

Table Three: 50,000 Copies
(8 1/2 x 11 — cut, fold, saddle stitch)

Number of Colors	Number of Pages	Cost Per Copy	Total Cost
1	12	\$.30	\$15,000
1	24	\$.50	\$25,000
1	48	\$.91	\$45,500
3	12	\$.43	\$21,500
3	24	\$.71	\$35,500
3	48	\$1.26	\$63,000
5	12	\$.48	\$24,000
5	24	\$.79	\$39,500
5	48	\$1.40	\$70,000



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