UNITED
NATIONS

TD

United Nations
Conference
on Trade and
Development

Distr.
General

TD/B/COM.2/ISAR/2
3 December 1997

Original : English

COMMISSION ON INVESTMENT, TECHNOLOGY AND
RELATED FINANCIAL MATTERS
Intergovernmental Working Group of
Experts on International Standards
of Accounting and Reporting
Fifteenth session
Geneva, 11-13 February 1998
Item 3 of the provisional agenda

ENVIRONMENTAL FINANCIAL ACCOUNTING AND REPORTING AT THE CORPORATE LEVEL

Report by the UNCTAD Secretariat */

Executive Summary

The following report consists of two chapters. The first chapter is an interim statement of best practice guidance for accounting and reporting for environmental costs and liabilities. It is synthesized from a background paper, "Accounting and reporting for environmental liabilities and costs within the existing financial reporting framework", which reviews positions taken by numerous national standard-setting and other organizations. The purpose of this interim statement of best practice guidance is to provide assistance to enterprises, regulators and standard-setting bodies in determining what is considered best practice in accounting for environmental transactions and events in the financial statements and associated notes. At its 13th session, the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting decided that it was important to create guidelines and/or develop a basic framework for environmental accounting. Without the prompt development of this framework as guidance to member States, the latter would subsequently find themselves in the position of having to reconcile their independent standards and procedures with those of other member States.

*/ The UNCTAD Secretariat gratefully acknowledges the assistance of David Moore of the Canadian Institute of Chartered Accountants (CICA) Toronto, Canada, and Roger Adams of the Association of Chartered Certified Accountants (ACCA), London, United Kingdom, in preparing this report. The secretariat would also like to thank the many other experts who commented in writing and during consultations during the comment period, 1 July-31 October 1997.

GE.97-52240

The second chapter attempts to go beyond the conventional accounting model and identify key environmental performance indicators (EPIs) and examine their relation to financial performance. It reviews best practices used to measure and communicate environmental performance (i.e., EPIs) and how such environmental data are increasingly being used by the financial community to make investment decisions. It concludes by making recommendations for improvements in EPIs if environmental performance is to be reported in a coherent and useful manner. The second chapter is based on the longer background paper, "Linking environmental and financial performance: a survey of best practice techniques".

CONTENTS

I. INTERIM STATEMENT OF BEST PRACTICE GUIDANCE FOR ENVIRONMENTAL FINANCIAL ACCOUNTING AND REPORTING

A. Purpose and focus of the interim statement

1. Since the late 1980s, ISAR has given extensive attention to issues relating to environmental accounting, and has undertaken a number of surveys at the national as well as at the enterprise level. In 1991, it reached agreement on a number of items that it felt could be considered by the board of directors for disclosure in its report or management discussion, in order to deal with relevant environmental issues. In 1995, its thirteenth session was devoted exclusively to the subject of environmental accounting. During that session, the International Standards of Accounting and Reporting (ISAR) noted that, although considerable research was already under way, a significant effort was still required to study and evaluate the information being produced, so as to identify the most appropriate guidance that should be given to governments and other interested parties. It concluded that providing such guidance was important. Without its prompt development, ISAR felt that differences would arise, and member States would subsequently find themselves in the position of having to reconcile their independent standards and procedures with those of other member States.

2. The purpose of this *Interim Statement of Best Practice Guidance for Financial Accounting and Reporting* is to provide assistance to enterprises, regulators and standard-setting bodies on what is considered best practice in accounting for environmental transactions and events in the financial statements and associated notes. The sections on measurement and presentation are based on a synthesis of positions developed, or being developed, by standard-setting and other organizations, and includes extracts taken from some of the related documents. The section on disclosure is more extensive than that included in the documents referred to, and includes some of the disclosures previously proposed by ISAR.

3. In some respects, the *Interim Statement* may go beyond the position developed, or being developed, by standard-setting and other organizations. For example, it considers an equitable obligation to be a type of constructive obligation which should therefore be recognized as an environmental liability, and advocates disclosure of the extent of any environmental damage to the enterprise’s own property.

4. ISAR recognizes that a number of these issues are under consideration by the International Accounting Standards Committee (IASC). This interim statement attempts to bring together in one place most of the issues which have been raised in corporate accounting and reporting of environmental impacts. It is unlikely that the IASC will issue such a comprehensive statement in the near future. It is more likely that it will incorporate environmental issues in each of its individual standards, as appropriate. This approach could take a number of years. Any position in this *Interim Statement of Best Practice Guidance* that is different from the standard eventually promulgated by the IASC should therefore be reconciled to that standard when issued. For this reason, this document is referred to as an interim statement.

5. *The focus of this* Interim Statement *is on the accountability of the management of an enterprise for the financial implications of managing the environmental resources entrusted to it*.

6. The stated objective of financial statements as contained in the "Objectives of Financial Statements" issued by ISAR (1989) is to provide information about the financial position of an enterprise, which is useful to a wide range of users in making decisions and is necessary for the accountability of management for resources entrusted to it. The environment is a resource that is significant to many enterprises, and it must be managed efficiently for the benefit of both the enterprise and society.

B. Need to Account for Environmental Costs and Liabilities

7. Issues associated with accounting for the environment have become increasingly relevant to enterprises (whether they be businesses, non-profit organizations or government enterprises, such as municipalities and crown corporations) as the pollution of the environment has become a more prominent economic, social and political problem throughout the world. Steps are being taken at the national and international level to protect the environment and to reduce, prevent and mitigate the effects of pollution. As a consequence, enterprises are now expected, or even required, to disclose information about their environmental policies, environmental objectives, and programmes undertaken, and the expenditures incurred in pursuit of these policies, objectives and programmes, and to disclose and provide for environmental risks.

8. How an enterprise’s environmental performance affects its financial health and how financial information relating to such performance can be used to assess environmental risk, and the management of such risk, are often matters of concern to investors and their advisers. Creditors have similar needs, but an added factor is the possibility of having to take on the responsibility for rectifying environmental damage should a debtor default on a loan for which it has pledged land as security; the amount involved may be significantly greater than that of the original loan. Owners and shareholders are particularly interested because of the potential impact environmental costs may have on the financial return on their investment in the enterprise.

C. Scope

9. This *Interim Statement* deals with accounting for environmental costs and liabilities arising from accounting transactions and events that would affect, or will likely affect, the financial position and results of an enterprise and, as such, should be reported in an enterprise’s financial statements. The recognition and measurement of costs or events that are not absorbed by the enterprise are not covered. Examples of such costs (often referred to as "external costs") can include those relating to the negative impacts of air pollution and water pollution on the environment.

D. Definitions

10. The following terms are used in this *Interim Statement* with the meanings specified:

> The *environment* comprises our natural physical surroundings and includes air, water, land, flora, fauna and non-renewable resources, such as fossil fuels and minerals.
>
> An *asset* is a resource controlled by an enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise.

A *liability* is a present obligation of the enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits.

A *contingent liability* is a potential obligation arising from past events that exists at the balance sheet date, but whose outcome will be confirmed only on the occurrence or non-occurrence of one or more uncertain future events that are outside the control of the enterprise.

Environmental costs comprise the costs of steps taken, or required to be taken, to manage the environmental impacts of an enterprise's activity in an environmentally responsible manner, as well as other costs driven by the environmental objectives and requirements of the enterprise.[1]

Environmental assets are environmental costs that are capitalized and amortized over the current and future periods because they satisfy the criteria for recognition as an asset.

Environmental liabilities are obligations relating to environmental costs that are incurred by an enterprise and that meet the criteria for recognition as a liability. When the amount or timing of the expenditure that will be incurred to settle the liability is uncertain, "environmental liabilities" are referred to in some countries as "provisions for environmental liabilities".

To *capitalize* is to record an environmental cost as an integral part of a related asset, or as a separate asset, as appropriate.

An *obligation* is a duty or responsibility to others that entails settlement, by future transfer or use of assets, provision of services or other yielding of economic benefits, at a specified or determinable date, on occurrence of a specified event, or on demand. A *legal obligation* is a statutory, regulatory or contractually based obligation. A *constructive obligation* is one that can be created, inferred or construed from the facts in a particular situation, in that it leaves the enterprise with little or no discretion to avoid meeting the obligation, rather than being legally based.[2] An *equitable obligation* is a type of a constructive obligation that is based on ethical or moral considerations.

---

[1] Examples include costs of disposal and avoidance of waste, preserving or improving air quality, cleaning up oil spills, removing asbestos from buildings, researching for more environmentally friendly products, carrying out environmental audits and inspections, etc. Fines, penalties and compensation would be regarded as environmentally related costs, and would not be included in this definition of environmental costs, but would be disclosed separately.

[2] For example, there may not be any legal obligation for an enterprise to clean up an oil spill in a particular jurisdiction, but the enterprise's reputation, and its future ability to operate in that jurisdiction, may be significantly at risk if it fails to do so.

11. Accounting for environmental costs and liabilities is covered by various basic concepts of accounting that have evolved. Of particular relevance are the definitions of "liabilities" and "assets". Additional disclosures may, however, be necessary or desirable to fully reflect various environmental impacts arising from the activities of a particular enterprise or industry.

E. Recognition of Environmental Costs

12. *Environmental costs should be charged to income in the period in which they are identified, unless the criteria for recognition as an asset have been met, in which case they should be capitalized and amortized to the income statement over the current and appropriate future periods.*

13. Issues relating to environmental costs centre on the period or periods in which costs should be charged to the income statement.

14. In some cases, an environmental cost may relate to damage that has taken place in a prior period. Examples include environmental damage to property that occurred prior to acquisition, an accident or other activities in a prior period that now require clean up, clean up of property disposed of in a prior period, and costs of disposing or treating hazardous waste created in a prior period. Accounting standards, however, generally preclude environmental costs being treated as a prior period adjustment unless there is a change in accounting policy or unless there was a fundamental error. The examples referred to above would, therefore, generally not qualify.

15. Environmental costs should be capitalized if they relate, directly or indirectly, to future economic benefits that will flow to the enterprise through:

- *(a) increasing the capacity, or improving the safety or efficiency of other assets owned by the enterprise;*
- *(b) reducing or preventing environmental contamination likely to occur as a result of future operations; or*
- *(c) conserving the environment.*

16. The definition of an asset indicates that where a cost incurred by an enterprise will result in future economic benefits, it would be capitalized and charged to income over the period in which those benefits are expected to be realized. Environmental costs that comply with such a criterion would, therefore, be capitalized. Capitalization is also considered appropriate when environmental costs are incurred for safety or environmental reasons, or where they reduce or prevent potential contamination, or conserve the environment for the future. While they may not directly increase economic benefits, incurring such costs may be necessary if the enterprise is to obtain, or continue to obtain, future economic benefits from its other assets.

17. Many environmental costs do not result in a future benefit, or are not sufficiently closely related to future benefits to enable them to be capitalized. Examples would include treatment of waste products, clean up costs relating to current operating activities, clean up of damage incurred in a prior period, ongoing environmental administration, and environmental audits. Fines and penalties for non-compliance with environmental regulations, and compensation to third parties for environmental damage are regarded as environmentally related costs, and are also instances of costs incurred that do not result in future benefits. Such costs would therefore be charged to the income statement immediately.

18. *When an environmental cost that is recognized as an asset is related to another asset, it should be included as an integral part of that asset, and not recognized separately.*

19. In most instances, environmental costs that are capitalized are related to another capital asset. There is no specific or separate future benefit that results from incurring the environmental costs themselves. The future benefit of such costs lies in another productive asset that is used in the enterprise’s operations. For example, the removal of asbestos from a building does not in itself result in a future economic or environmental benefit. It is the building that receives the benefit. It would therefore be inappropriate to recognize such asbestos removal as a separate asset. A piece of machinery that removes pollution from the water or atmosphere, on the other hand, could have a specific or separate future benefit and could, therefore, be recognized separately.

20. *When an environmental cost is capitalized and included as an integral part of another asset, the combined asset should be tested for impairment and, where appropriate, written down to its recoverable amount.*

21. The integration of capitalized environmental costs with the related asset could, in some instances, result in the combined asset being recorded above recoverable amount. Consequently, the combined asset should be tested for impairment. Similarly, capitalized environmental costs recognized as a separate asset should also be tested for impairment.[3] Whilst the recognition and measurement of environmental impairment involves the same principles as other forms of impairment, the uncertainties may be greater. In particular, the "stigma" effect of environmental pollution on the value of neighbouring properties has to be considered.

F. Recognition of Environmental Liabilities

22. *An environmental liability should be recognized when there is an obligation on the part of the enterprise to incur an environmental cost.*

23. An obligation does not have to be legally enforceable for an environmental liability to be recognized. There may be cases where an enterprise has a constructive obligation, either in the absence of a legal obligation or that expands on the legal obligation. For example, it may be the enterprise’s established policy to clean up contamination to a higher standard than that required by law, and its business reputation would be affected if it did not live up to this commitment. An enterprise may also intend to incur an environmental cost because it is the right and proper thing to do (generally referred to as an equitable obligation). For an environmental liability to be recognized in such situations, however, there has be a commitment on the part of management of an enterprise to incur the related environmental costs (for example, a board decision recorded in minutes that are publicly available, or communicated by way of a public announcement). At the same time, an enterprise should not be precluded from recognizing an environmental liability simply because its management, at a later date, may not be able to meet the commitment. If this eventuality does occur, there should be disclosure of that fact in the notes to the financial statements, together with the reason why the enterprise’s management is unable to meet the commitment.

[3] IASC, "Proposed International Accounting Standards on Impairment of Assets", May 1997.

24. In rare situations, it may not be possible to estimate, in whole or in part, the amount of an environmental liability. This does not exempt an enterprise from disclosing the fact that there is an environmental liability. In such a situation, the fact that no estimate can be made, together with the reason therefor, should be disclosed in the notes to the financial statements.

25. When environmental damage relates to the enterprise’s own property, or is caused by the enterprise’s operations and activities to other property for which there is no obligation on the enterprise’s part to rectify, the extent of the damage should be disclosed in the notes to the financial statements. If there is a reasonable possibility that such damage may have to be rectified in some future period, consideration should be given to disclosing a contingent liability.

26. Although there may not be an obligation at the balance sheet date for an enterprise to rectify environmental damage, the situation may change in future periods, for example, due to new legislation or due to a decision by the enterprise to dispose of its property, in which case there will then be an obligation. In any event, owners and shareholders are entitled to know the extent to which there is environmental damage to the enterprise’s own property, as well as to the property of others.

27. *Costs relating to site restoration or the closure or removal of long-lived assets which the enterprise is under an obligation to incur should be recognized in full as an environmental liability at the time of identifying the need to undertake the remedial action relating to such site restoration, closure or removal.*

28. Since the obligation relating to future site restoration or closure or removal of long-lived assets arises when the related damage to the environment originally takes place, an environmental liability would be recognized at that time, and not deferred until the activity is completed or the site is closed.

29. *Future site restoration costs that relate to damage incurred in prior periods to prepare an asset or activity for operation, and that are accrued in total at the time the related damage is incurred, should be capitalized.*

30. In many situations, environmental damage has to be incurred before an enterprise can commence a particular activity and also throughout the life of that activity. For example, mining operations could not be commenced without related excavation work being undertaken. Enterprises are frequently required to undertake site restoration once the activity has been completed. Such restoration costs would be accrued in total when the environmental damage to which they relate is incurred (see paragraphs 27 and 28). The amount would also be capitalized and amortized to the income statement over the life of the activity.

G. Recognition of Recoveries

31. *An expected recovery from a third party should not be netted against the environmental liability, but should be separately recorded as an asset, unless there is a legal right of set off. Where the amount is netted because there is a legal right of set off, the gross amounts of both the environmental liability and the recovery should be disclosed.*

32. In most cases, an enterprise will remain primarily liable for the whole of the environmental liability in question such that, if the third party fails to pay for any reason, the entity would have to meet the full cost. If the

enterprise is not responsible for the third party's portion should it default, only the enterprise's portion would be recorded as an environmental liability.

33. *Expected proceeds from the sale of related property and salvage proceeds should not be netted against an environmental liability.*

34. For an asset with limited life, salvage and residual values are normally taken into consideration in arriving at the amount to be amortized. It would be double counting to reduce an environmental liability by such amounts.

H. Measurement of Environmental Liabilities

35. *When there is difficulty in estimating an environmental liability, the best possible estimate should be provided. Details on how the estimate was arrived at should be disclosed in the notes to the financial statements. In those rare situations where no estimate can be provided, this fact and the reasons therefor should be disclosed in the notes to the financial statements.*

36. In some situations, an estimate of an environmental liability may be difficult to determine because of the uncertainty about a number of factors. Such factors include the extent and type of hazardous substances at a site, the range of technologies that can be used, and evolving standards as to what constitutes acceptable remediation. Even though it may not be practical to estimate the actual liability, it will often be possible to estimate a "range of loss". In such an instance, the best estimate within the range should be provided. Where it is not possible to arrive at a "best estimate", at least the minimum estimate should be recognized. It would be a rare situation when no estimate can be made. In such a case, note disclosure should be provided.

Preferred Treatment

37. An environmental liability relating to future site restoration or closure and removal of long-lived assets should be measured at the present value of the estimated future expenditures that will be needed, based on a determination of the current cost of performing the required activities and existing legal and other requirements. The fact that this method has been used should be disclosed.

Acceptable Alternative Treatment

38. An environmental liability relating to future site restoration or closure and removal of long-lived assets should be measured at the estimated cost of performing the required activities in the current period. The fact that this method has been used should be disclosed.

39. A number of approaches have been proposed for measuring liabilities relating to future site restoration, or closure and removal, costs and for other situations where expenditures relating to the settlement of the liability are not expected to be incurred for a considerable period of time. They include the following:

(a) the "present value" approach;
(b) the "current cost" approach;
(c) providing for the anticipated expenditures over the life of the related operations.

Both the present value approach and the current cost approach require the determination of the estimated cost to perform the site restoration, closure or removal activities in the current period based on existing conditions and legal requirements (the current cost estimate). Under the current cost approach, this amount would be reflected as the environmental liability. Under the present value approach, however, the measurement of the environmental liability would be based on the present value of the estimated future cash outflows required to satisfy the obligations. Providing for the anticipated expenditures over the life of the related operations would be based on an estimate of the cash outflows that would eventually be required, rather than the amount that would currently be required.

40. The present value approach requires additional information about the time value of money and the factors that may affect the timing and amount of the estimated cash flows required to satisfy the obligations. Those latter items attempt to estimate the outcome of future events and, consequently, increase the level of uncertainty about that approach. As a result, some believe that the reliability of the present value approach is not sufficient to require recognition of a liability in the financial statements. They believe that the current cost approach is inherently more reliable than the present value approach because of the absence of uncertainties about future events. Others believe, however, that the decision usefulness of the current cost approach decreases with increases in the length of time between the initial recognition of the liability and its eventual settlement, and that the relevance of the present value approach outweighs the perceived reliability of the current cost approach. While ISAR considers both approaches to be acceptable, it expresses a preference for the present value approach. With respect to environmental liabilities that will be settled in the near-term, however, the current cost approach would normally be used.

41. In measuring an environmental liability based on the present value approach, the discount rate used to measure present value would be a risk-free rate, such as that used for a government security that has a similar term. Advances in technologies that are expected to take place in the near term would be taken into consideration, but those of a longer-term nature would not be considered. Expected inflation that will affect the costs to be incurred would also be taken into consideration. Further, the amount of the environmental liability would be reviewed each year, and adjusted for any changes made in the assumptions used in arriving at the estimated future expenditures. Measurement of a new or additional obligation will be based on factors relevant to the period in which that obligation arises.

42. ISAR does not support the approach of providing for the anticipated expenditures over the life of the related operations, since it is inconsistent with the requirement to recognize an environmental liability when there is an obligation on the part of an enterprise to incur an environmental cost, as set out in paragraph 22.

I. Disclosure[4]

43. Disclosure of information relating to environmental costs and liabilities is important for the purpose of clarifying or providing further explanation of the items included in the balance sheet or the income statement. Such disclosures

---

[4] ISAR acknowledges that the disclosure proposed goes beyond that advocated by standard setting organizations. On the other hand, minimal disclosure is currently being provided by most enterprises.

can either be included in those financial statements, in the notes to the financial statements or, in certain cases, in a section of the report outside the financial statements themselves. In deciding on whether an item of information, or an aggregate of such items, should be disclosed, consideration should be given as to whether the item is material. In determining materiality, consideration would be given not only to the significance of the amount, but also to the significance of the nature of the item. The costs of providing the information should bear a reasonable relationship to the benefits derived therefrom. It is also necessary to take into account the need of the enterprise to maintain business confidentiality in sensitive areas, so as not to jeopardize its competitive position or its ability to continue its operations.

Environmental costs

44. *The types of items that an enterprise has identified as environmental costs should be disclosed*.

45. Environmental costs arise in a number of ways, and the costs incurred will often improve the operational efficiency of the enterprise, as well as its environmental efficiency. What is included as an environmental cost will require judgment. Some enterprises may choose to include only those costs that are "wholly and exclusively" attributable to environmental measures. Others may choose to make an arbitrary allocation when a cost is only partly environmental. Disclosure of what has been included as an environmental cost should, therefore, be provided.

46. *The amount of environmental costs charged to income, distinguished between operating and nonoperating costs and analysed in a manner appropriate to the nature and size of the business and/or the types of environmental issues relevant to the enterprise, and the amount of environmental costs capitalized during the period, should be disclosed in the notes to the financial statements.*

47. The types of items identified could include, but would not necessarily be restricted to: liquid effluent treatment; waste, gas and air treatment; solid waste treatment; site restoration; remediation; recycling; and analysis, control and compliance.

48. *Environmentally related costs incurred as a result of fines and penalties for non-compliance with environmental regulations and compensation to third parties as a result of loss or injury caused by past environmental pollution and damage should be separately disclosed.*

49. Fines, penalties and compensation are different from other types of environmental costs in that they provide no benefit or return to the enterprise. Separate disclosure is therefore appropriate.

50. *An environmental cost recorded as an extraordinary item should be separately disclosed.*

Environmental Liabilities

51. *Environmental liabilities should be separately disclosed either in the balance sheet or in the notes to the financial statements.*

52. *The basis used to measure environmental liabilities (the present value approach, or the current cost approach) should be disclosed.*

53. *For each material class of liabilities, the following should be disclosed:*

a. a brief description of the nature of the liabilities;

b. a general indication of the timing and terms of their settlement.

When there is significant uncertainty over the amounts of the liabilities, or the timing of settlement, this fact should be disclosed.

54. *Any significant measurement uncertainties relating to a recognized environmental liability and the range of possible outcomes should be disclosed.*

55. Where the present value approach has been used as the basis of measurement, consideration would be given to disclosing all assumptions critical to estimating the future cash outflows and the liability recognized in the financial statements, including:

(a) the current cost estimate of settling the liability;

(b) the estimated long-term rate of inflation used in computing the liability;

(c) the estimated future cost of settlement;

(d) the discount rate(s).

56. The disclosure called for in paragraphs 51 to 55 will assist users of the information in their assessment of the nature, timing and an enterprise's commitment of its future financial resources.

Accounting policies

57. *Any accounting policies that specifically relate to environmental liabilities and costs should be disclosed.*

General

58. *The nature of environmental liabilities and costs recognized in the financial statements should be disclosed, including,* inter alia*, a brief description of any environmental damage, any laws or regulations that require its remediation, and any reasonably expected changes to these laws or to existing technology that are reflected in the amount provided for.*

59. *The type of environmental issues that are pertinent to an entity and its industry should be disclosed, including*

(i) the formal policy and programmes that have been adopted by the entity;

(ii) in cases where no such policy and programmes exist, this fact should be stated;

(iii) the improvements in key areas that have been made since the introduction of the policy, or over the past five years, whatever is shorter,

(iv) the extent to which environmental protection measures have been undertaken due to governmental legislation, and the extent to which governmental requirements (for example, a timetable for the reduction of emissions) have been achieved;

(v) any material proceedings under environmental laws.[5]

60. It would be desirable to disclose any government incentives, such as grants and tax concessions, provided with respect to environmental protection measures.

61. The disclosure advocated in paragraphs 57 to 60 could be provided either in the notes to the financial statements or in a separate section outside the financial statements. It enables users of the information to assess an enterprise’s current and future prospects regarding the impact of environmental performance on the financial position of the enterprise.

II. LINKING ENVIRONMENTAL AND FINANCIAL PERFORMANCE: A SURVEY OF BEST PRACTICE TECHNIQUES

A. Objectives of the study

62. Public reporting of environmental data by enterprises is a phenomenon of the 1990s. With environmental legislation drawing tighter almost everywhere, financial sector stakeholders are beginning to demand improved levels of environmental data. They use such data for various purposes: to reduce their own exposure to lending or credit risk; to judge the entity's own exposure to risk; to interpret corporate managements' ability to manage environmental issues and integrate environmental issues into general long-term strategic issues; and to compare progress between companies and over time.

63. The specific objectives of the background paper from which this chapter is drawn are:

- to explore the limitations of the conventional financial reporting model as a vehicle for reporting environmental data;
- to identify and record the methods being used by leading edge companies to measure and communicate environmental performance;
- to identify and record the techniques used by financial sector stakeholders to integrate environmental performance data into their investment decisions;
- to review evidence concerning the relationship (if any) between environmental and shareholder value auditioned
- to make recommendations concerning the way(s) in which environmental performance is communicated in external corporate reporting and to suggest ways in which the use of environmental performance indicators can be improved

64. Underlying these objectives are the assumptions that:

(i) there is a need to communicate environmental performance in a standardized and coherent way if it is to be useful or relevant to a potential user; and

---

[5] This is taken from ISAR’s Conclusions on Accounting and Reporting by Transnational Corporations,(United Nations publication, Sales No.E.94.II.A.),New York, paragraph 209.

(ii) for financial market users in particular, there is a need to understand how corporate environmental strategy and performance impacts on financial performance and shareholder value.

B. Limits of the conventional financial reporting model

65. Because neither national company legislation nor national generally accepted accounting principals (GAAP) frameworks have made broad environmental disclosures mandatory, disclosures in annual reports are usually confined to the largest enterprises, limited in extent and rarely comparable from enterprise to enterprise. As a result, such disclosures are seldom seen as being useful to external decision makers.

66. The conventional model of financial accounting and reporting is one which emphasizes the importance of financial performance. The annual report deriving from the conventional model highlights financial assets and liabilities, shareholder worth, operating income and taxes, and changes in the financial position of the enterprise over the reporting period. The conventional model contains relatively little by way of predictive or forward looking information.

67. The conventional model routinely ignores environmental issues unless they have a financial impact of sufficient materiality to trigger the recognition and measurement criteria contained in most established GAAP frameworks. Thus only a limited range of environmental disclosures are required by the conventional accounting framework: these few instances tend to centre on environmental liabilities and provisions, contingent liabilities and where appropriate, exceptional items, impaired assets and long term de-commissioning costs. Even these are underreported or unreported in the face of uncertainty on timing or estimation.

68. The conventional model of financial reporting minimizes the role given to non-financial data. Although the environment has played a larger role in corporate strategy over the last decade, it is nevertheless apparent that annual reports at present fail to convey either the significance of environmental issues to the reporting entity or any adequate description of how corporate management is attempting to integrate environmental strategy into overall corporate strategy. Reporting takes a minimalist approach and focuses largely on meeting legal obligations and targets.

C. Best practice in measuring and communicating environmental performance

69. A good summary of the current extent of disclosure of environmental data in company annual reports and stand alone environmental reports is the Klynveld Peat Marwick Goedeler (KPMG) *"International Survey of Environmental Reporting 1996".* This covers the 100 leading companies in each of 12 (developed) countries.[6] Overall, 556 (69%) of companies surveyed mentioned the environment in their annual reports - an increase from 37% in 1993. With regard to stand-alone environmental reports, KPMG finds that 23% of companies surveyed (13% in 1993) produce corporate environmental reports, in addition to their annual report to shareholders. Interest in environmental disclosure and accounting for the environment is not confined, however, to the countries covered by the KPMG

6. Australia, Belgium, Canada, Denmark, Finland, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States of America.

survey. Interest has been shown in countries as diverse as China, India, Japan, the Russian Federation, South Africa and Thailand.

70. Some problems arising with current environmental disclosures are set out in table 1. below.

Table 1. Expected usefulness of environmental disclosures via the annual report to shareholders

Category of disclosure	**Example of disclosure**	**Expected usefulness rating to financial community**
Category 1: financially quantified data relating to environmental liabilities and provisions; exceptional environmental costs; green levies and taxes	Balance sheet provisions in respect of future clean-up costs	**High** - accounting standards and statutory requirements only require separate disclosure of material (significant) items. Disclosure is covered by audit opinion.
Category 2: qualitative data relating to (*inter alia*) environmental policies, procedures and progress; other environmental costs	Statement of corporate environmental policies; description of environmental audit procedures and coverage	**Moderate** - discretionary disclosure(s) are susceptible to PR hype and are not covered by any audit opinion, but they are evidence of corporate commitment. Cost identification and allocation may be problematic.
Category 3: non-financial but quantified/verifiable data regarding environmental performance	Environmental performance data re emissions, resource use, efficiency measures	**Moderate/low** - unlikely to be externally verified or (currently) comparable with other companies in same sector

71. At present there appears to be a mismatch between corporate environmental disclosures and the needs of financial sector stakeholders. Based upon an analysis of (I) various stakeholder information needs studies and (ii) existing guidance/recommendations on environmental disclosures, this report makes recommendations which expand upon the earlier (1991) ISAR recommendations for environmental disclosure (UNCTAD Conclusions, 1994). Table 2 set out in Section D of this chapter (below) presents a recommended framework for environmental disclosures within the annual report to shareholders.

D. Methods used by leading-edge enterprises in measuring and communicating environmental performance

72. Possibly because of the relative novelty of environmental performance measurement, it appears that there is no one single accepted way of defining *or* measuring environmental performance. Various approaches are identified:

- reporting on compliance with statutory permits or toxic release inventory (TRI)-type requirements
- reporting reductions in absolute discharges
- reporting success in achieving emissions reduction targets
- relating emissions to significant environmental impacts ("environmental footprint")
- developing single (or multiple) index models to give an aggregate environmental performance

- developing an array of relevant environmental performance indicators (EPIs) which have general industry significance and which are computed on a consistent basis over time

73. The generic categories of environmental performance indicators identified by James and Bennett (1994) provide perhaps a useful synthesis of the current approach to monitoring, measuring and reporting environmental performance. It should be noted that there is a strong relationship between the categories of EPI identified below and those being developed for <u>internal</u> environmental management purposes by the International Standards Organisation (ISO - ISO 14031: Environmental Performance Evaluation).

Table 2.

Categories of EPIs	**Examples of EPIs**
1. measures of ultimate environmental *impact*	• species diversity around plant • noise levels at specified points • ratio of actual to sustainable discharges
2. *risk* measures of potential impact	• usage of high risk chemicals/materials • risk of fatalities to exposed populations • risk of damage to ecosystems
3. *emissions/waste measures* (of mass and volume of emissions and wastes)	• emissions to air: TRI toxics, sulphur dioxides, nitrogen oxides, CO^2 etc. • waste to landfill: hazardous, non-hazardous • waste water discharges
4. *input* measures (of the effectiveness of business process)	• measures covering people, equipment, materials, physical setting, internal support
5. measures of *resource* consumption	• measures of energy, materials, water, etc. • electricity, gas, oil consumption • natural resource (paper/minerals/water) consumption)
6. *efficiency* measures (of energy and materials utilization)	• energy: ratio energy used/wasted • ratio actual/theoretical energy use • materials: percentage utilization • equipment: percentage utilization
7. *customer* measures (of satisfaction and behaviour)	• level of approval • number of complaints • product related environmental awareness • % adopting desired behaviour
8. *financial* measures	• cost of environment related capital expenditure • direct environment related operating costs • regulatory compliance, fines and penalties • costs of energy/materials • avoided costs plus measurable benefits

74. The significant amount of interest being demonstrated by the financial community in the relative environmental performance of enterprises has resulted in increasing attention being paid to the development of so-called "eco-financial" (or "eco-efficiency") indicators. Bodies such as the European Federation of Financial Analysts Societies and the Swiss Bankers Association have led the way in calling for the publication of standardized eco-efficiency/eco-financial indicators. Table 3. is illustrative of the range of such indicators which have been developed to date:

Table 3. Financially relevant ("eco-financial") environmental performance indicators

1.	Cost of environment related capital expenditure
2.	Direct environment related operating or management costs as % of sales, value added, net earnings, divisional earnings or other unit of output costs, e.g. production cost or site cost of sales
3.	Total costs of regulatory compliance
4.	Fines and penalties, damages and remediation costs
5.	Cost of waste and waste-disposal charges to costs of materials
6.	Avoided costs/benefits of pollution prevention measures/reduced costs of purchased materials resulting from recycling or reuse
7.	Marginal cost of environmental protection measures
8.	Insurance premiums as measures of the effectiveness of risk-management activities
9.	Emission reduction/expenditure
10.	Average environmental expenditure per....
11.	Environmental investments/total investments
12.	Cost of energy or fuel consumption or packaging costs
13.	Donations and other voluntary environmental costs
14.	TRI emission per $m turnover

75. The above table reveals the diversity in environmental performance indicators. Enterprises within the same industry often report their performance using different indicators, and not necessarily using the same indicators from year to year. As a result, it is more difficult to compare the environmental performance of different enterprises; to determine if the enterprise is improving over time; and if so what strategy it adopted to achieve any improvements and whether it was the most cost-efficient strategy. The work currently under way on EPIs at the industry level or in conjunction with ISO 14031 aims at developing industry-specific indicators for internal management purposes and not for external reporting purposes. The identification and standardization of both

generic and industry-specific EPIs could guide preparers in providing essential qualitative and quantitative environmental information for inclusion in the annual report. The use of standardized indicators could also stimulate enterprises to improve their environmental and financial performance by comparing them with competitors, that is benchmarking.

76. The widespread usage of such EPIs is dependent on there being:

- an accepted definition of environmental operating and capital expenditures;
- further development in the area of industry-specific EPIs;
- development of generic environmental impact EPIs, e.g., global-warming indicators

77. Regarding the first constraint, many enterprises appear able to disclose such data, but the analyst or would-be user needs to pay careful attention to the precise details of the accounting policy adopted by the reporting entity *vis-à-vis* the definition and disclosure of environmental operating and capital costs. With regard to the second constraint there is considerable experimentation going on at the industry/trade association level to derive appropriate generally accepted benchmark EPIs. With respect to the third constraint more work needs to be done in this area - a new ISAR project is reviewing generic EPIs in the context of such issues as Agenda 21 and various sustainability indicators.

78. Once measured, environmental performance is being communicated via a number of different media - and some companies use two, three or four different avenues to convey their environmental performance record to interested stakeholder groups. For example via:

- the annual report to shareholders
- a corporate stand-alone environmental performance report
- a local (site) report
- an Internet web site
- the official environmental register maintained by the regulator

As noted in para. 69 above, the number of enterprises disclosing non-financial and financially quantified environmental data is increasing at a steady rate.

79. But, as also noted in paras. 70 and 71 above, environmental reporting currently lacks credibility in the eyes of certain external stakeholder groups because certain "qualitative characteristics", which exist in the financial reporting domain, are absent. These include, *inter alia*:

- a guarantee of completeness
- comparability (through standardization of industry-relevant and generic EPIs)
- consistency of measurement
- absence of credible external verification

E. Conclusions and recommendations

80. In general the weight of available evidence indicates a strong (and growing) interest in corporate environmental performance - not just from the relevant national or regional environmental regulator, but from a variety of other stakeholders, most noticeably those from the financial sector (bankers,

insurers, fund managers, etc.). At present these stakeholders find it difficult to interpret corporate environmental disclosures on a systematic basis because (a) of the voluntary nature of such reporting, and (b) because the general lack of standardization regarding the computation and disclosure of environmental performance indicators inhibits intercompany comparison.

81. The need for improved standards of environmental performance data is not restricted to enterprises based in developed countries, nor is it peculiar to the private sector. In many developing countries and transitional economies, access to external funding will depend in part upon improved environmental transparency and accountability.

Recommendations for annual report disclosures

82. Accepting that all material environmental liabilities and contingent liabilities *are* recognized, *are* appropriately measured and *are* properly disclosed by the conventional accounting system, what sort of additional information could be delivered in the annual report to shareholders on a cost-effective basis? Deliverable possibilities include those listed in the following table. It should be noted that the majority of these disclosures fall outside the audited financial statements themselves.

Table 4. An environmental reporting framework for the annual report

Annual report element	**Recommended environmental disclosure(s)**
Chairman/CEOs report	• corporate commitment to continuous environmental improvement • significant improvements since last report
Business segment review	• segmented environmental performance data (if not provided in the environmental review (see below) • improvements in key areas since previous report
Environmental review	• scope of the review • corporate environmental policy statement • extent of worldwide compliance • key environmental issues facing the company • organizational responsibilities • description of environmental management systems and international standards (e.g., ICC/ISO/EMAS) • segmental performance data based around: energy use, materials use, emissions (CO^2, NOx, SO^2, CFCs, etc.) and waste disposal routes • sector-specific data including industry-agreed EPIs (including eco-efficiency-based EPIs) • financial data on environmental costs (energy, waste, remediation, staffing, exceptional charges and write downs, fines and penalties, green taxes paid, capital investment) • financial estimates of savings and benefits flowing from pro-environment efforts • cross-reference to other environmental reports • independent verification statement
Operating & financial review/MD&A	• key environmental issues facing the company in the short-to medium-term and plans for addressing these • progress in addressing changes required by future legal requirements • actual and projected levels of environmental expenditure • legal matters pending

Report of the Directors	• environmental policy statement (if not provided elsewhere)
Accounting policy disclosure	• estimation of provisions and contingencies • capitalization policies • impairment policies • de-commissioning and land remediation policies • depreciation polices
Profit & loss account	• exceptional environmental charges (e.g. for remediation, de-commissioning or impairment charges) • other environmental costs and benefits (if not disclosed in separate environmental review - see above)
Balance sheet	• environmental provisions • de-commissioning provisions • environmental costs capitalized • expected recoveries
Notes to the accounts	• contingent environmental liabilities plus explanations
Other	Environmental data can also be put in the summary financial statements

Recommendations for improving stand-alone environmental reports

83. Some general suggestions might be appropriate regarding the form and content of stand-alone environmental reports as they appear at present:

- clearer statements regarding **the key environmental issues** facing the reporting entity;

- more use could be made of the sort of **segmental reporting techniques** used for consolidated financial reporting purposes;

- a clear statement regarding the **completeness of the environmental reporting** should be made;

- a statement of the **number of contaminated sites**, the current state of remediation at each site and the likely timing and cost of future remediation procedures;

- the provision of **industry relevant and industry accepted benchmarked environmental performance indicators (including experimentation with eco-efficiency indicators;** and

- the provision of **externally verified third party opinions based upon accepted and tested verification procedures** (though these may still be developing).

Recommendations for future work

84. The major issues to be resolved relating to the disclosure of environmental data would seem to be:

- agreeing **financial accounting definitions** in respect of environmental costs and revenues;

- developing a widely accepted range of **standardized environmental performance indicators** suitable for external reporting purposes;

- gaining acceptance for a **standardized format for external environmental reporting**: whether through the annual report to shareholders or through a stand-alone performance report; and

- improving the credibility of corporate environmental reporting activities by **formalizing the external attestation process**.

Bibliography

Advisory Committee on Business and the Environment (ACBE) (1997). *Environmental Reporting and the Financial Sector: An Approach to Good Practice*. London, United Kingdom.

Canadian Institute of Chartered Accountants (CICA) 1993. *Environmental Costs and Liabilities: Accounting and Financial Reporting Issues*. Toronto.

Cohen, M.A., Fenn S.A., and Naimon, J.S. (1995). *Environmental and Financial Performance: Are They Related?* Washington: Investor Responsibility Research Centre (IRRC).

EC Accounting Advisory Forum (ECAAF) (1995). *Environmental Issues in Financial Reporting*. Brussels, Belgium.

European Federation of Financial Analysts' Societies (EFFAS) (1996). *Eco-Efficiency and Financial Analysis: the Financial Analyst's Views*. Basle, Switzerland.

Institute of Chartered Accountants of England and Wales (ICAEW) 1996. *Environmental Issues in Financial Reporting*. London.

International Standards Organisation (ISO) (1996). "ISO 14031.5 Environmental Management - Environmental Performance Evaluation". Working draft.

James P. and Bennett M. (1994). "Environment-related performance measurement in business: from emissions to profit and sustainability"? Ashridge, United Kingdom: Ashridge Management Centre Working Paper AMRG 946.

Klynveld Peat Marwick Goerdeler (KPMG) (1997). *International Survey of Environmental Reporting 1996*, Entrust, Sweden.

National Round Table on the Environment and the Economy (1997). *Measuring Eco-Efficiency in Business*. Ottawa: Renouf Publishing Company.

UNCTAD (1994). *Conclusions on Accounting and Reporting by Transnational Corporations*. (United Nations publication, Sales No.E.94.II.A.9), New York and Geneva.

UNCTAD (1989). *Objectives of Financial Statements*. (United Nations publication, Sales E.89.II.A.18), New York.

Swiss Bankers Association (SBA). (1997). "Draft discussion paper regarding the voluntary disclosure of environmental information". Draft consultation paper.

United Nations Development Programme (UNDP) (1997). "Valuing the environment: how Fortune 500 CFOS and analysts measure corporate performance". New York: ODS Working Paper.

The World Markets Company Plc (WM). "Is there a cost to ethical investing"? (privately published investment research report).