



1999 Survey of
Environmental Management Systems
in South Africa

This survey was conducted by the KPMG Environmental Unit and endorsed by the Institute of Directors in Southern Africa (IoD). The primary researchers and authors of this report are Wilhelm Alheit and Miles Keogh, both Environmental Masters students at the University of Cape Town's Environmental and Geographical Sciences Department, who will use this research in partial fulfillment of their degree requirements.

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Introduction

A growing number of South African (SA) businesses and organisations are moving beyond simple compliance with environmental regulations, having recognised sound management advantages to improving their environmental performance. They are proactively investing in environmental technologies, personnel, and policies, through implementation of formal Environmental Management Systems (EMSs).

As with the Environmental Impact Assessment methodology, simply going through the motions of introducing an EMS is no guarantee that pollution and other environmental impacts will be minimised. Rather, it demonstrates an organisation's strategic commitment to environmental sustainability and increases its operational capacity to manage these impacts effectively.

Systems for managing an organisation's environmental performance come in a variety of forms, and several voluntary standards have appeared in recent years, including for example the ICC Business Charter for Sustainable Development, the Chemical Industry's Responsible Care program, the CERES principles, the UNEP Cleaner Production Declaration, BS7750, EMAS and the ISO 14000 series.

The most popular of these in the SA context is the ISO 14001 Environmental Management Systems standard. This was confirmed by the 1997 KPMG-IEF Top Companies Environmental Survey, in which 75% of those companies which were implementing an EMS were following ISO 14001 as a guideline. By 1 January 1999, nearly twenty companies had certified with the South African Bureau of Standards (SABS) against the requirements of this standard, with other certifying bodies adding a few more to this tally.

Despite the growing interest and importance of this field, however, there has been very little research into the status of EMS implementation in SA. This survey was commissioned to address this critical need.



Survey Objectives and Methodology

This study aims to understand how EMS has evolved since its introduction into SA, to identify trends in its future development, and to provide benchmark information to organisations who are using or plan to use EMS as a management tool. More specifically, the survey asks:

- What approaches do SA companies take to managing environmental issues?
- What standards and guidelines form the basis of EMS implementation in SA?
- What are the typical components of SA companies' EMSs?
- What links have been made between environmental and financial management through the EMS?
- What are the benefits of implementing and maintaining an EMS and what conditions improve its effectiveness?
- What are the problems experienced in implementing and maintaining an EMS and what conditions impose these problems?
- What does the future hold for EMS application in SA?

The research method adopted included the use of a structured questionnaire which was faxed or emailed to a predetermined sample of organisations during January and February 1999. The full questionnaire is included in Annexure B. The objectives of the research necessitated a focus on organisations that either have an established EMS or are in the process of implementing one. Hence, the following sources were used to derive a sample of organisations:

- The SABS list of companies which have been certified against the ISO 14001 (the EMS) standard.
- The IEF member companies.
- Companies that had indicated they have an EMS in previous KPMG environmental surveys.
- Other organisations identified through KPMG's environmental consulting experience.



Overall Survey Response

Of the 112 organisations initially identified in this manner, 29 were screened out either on the basis that they did not wish to participate, could not identify an appropriate environmental representative, or that they did not have a formal EMS. The resulting sample of 83 is likely to be indicative, rather than exhaustive, but nevertheless covers a broad spectrum of progressive organisations which utilise an EMS approach. A full sample list is included in Annexure A.

Of the final sample, 60 organisations (72%) responded timeously to the survey.

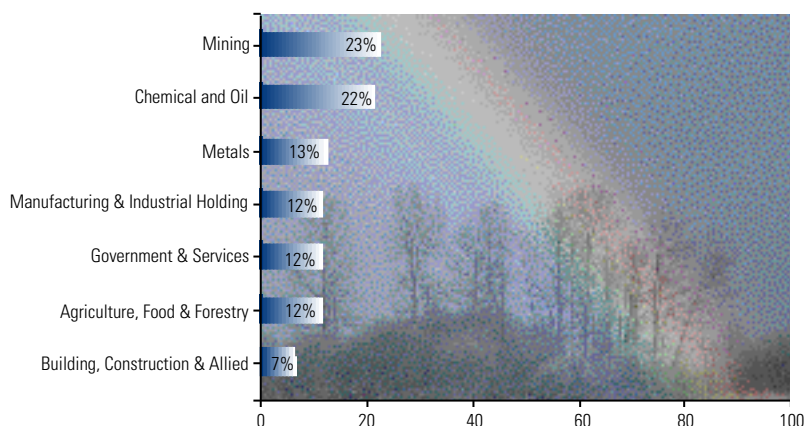
SA organisations comprised 85% of respondents, the remainder being companies with international headquarters.

Only 38% of respondents related the survey to an EMS for their entire organisation, implying that EMS is still applied more frequently in a site- or region-specific manner.

The sample achieved a relatively evenly spread across those sectors in the SA economy which are associated with significant environmental impacts (figure 1). More than half (57%) represented the 3 high impact sectors of either Mining, Metals or Chemicals & Oils. The reasons why these industry sectors are placing more emphasis on EMS are likely to be that:

- They consume large amounts of natural resources and produce significant volumes of (often hazardous) wastes.
- They have been subject to environmental regulation and public pressure for longer and more stringently than other sectors.
- They are typically export-oriented, and need to properly manage environmental impacts in order to ensure acceptability in international markets.

Figure 1—Sectoral Representation of Respondents



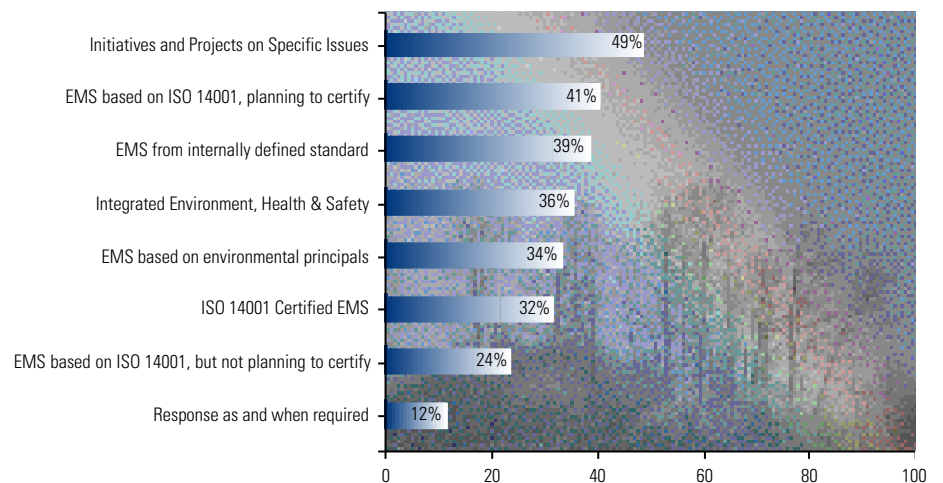
Survey Analysis

Approaches to environmental issues

The survey demonstrates that a diversity of approaches to environmental management are adopted by organisations (figure 2). The most common of these (49%) is the introduction of specific initiatives and projects. While this does not preclude the existence of an EMS, it serves to emphasize the issue-driven, “problem-fix” approach which still characterises environmental management in South Africa. This is likely to change as the more mature approach of integrated environmental management becomes more entrenched.

Interestingly, the most distinctive feature of the international companies was a higher propensity to implement integrated environment, health and safety (EHS) management systems. Other environmental guidelines mentioned were the IEF Code of Conduct, the ICC Business Charter for Sustainable Development and the UNCTAD Agenda 21 Programme.

Figure 2—Approaches to Organisational Management of Environmental Issues



ISO 14001

ISO 14001 is unequivocally recognised as the environmental management standard with an overwhelming 97% of organisations using this system as the basis for their EMS. Of these, 32% are already ISO 14001 certified, 41% are planning to certify and the remainder intend simply using the guideline informally. As mentioned previously, by the 1 January 1999, nearly 20 companies had certified with the SABS, with other certifying bodies adding a few more to this tally.

The most certified sector against ISO 14001 (figure 3a) is, to date, the Chemicals & Oils industry. However, this looks set to be overtaken by the Metals and Manufacturing & Industrial Holding sectors in the future, with the Agriculture, Food & Forestry close behind (figure 3b). Mining, off a low base due to its own legislated requirements for implementing Environmental Management Programmes since 1991, also looks set to convert to ISO 14001.

Figure 3b —ISO 14001 Existing Certification by Sector

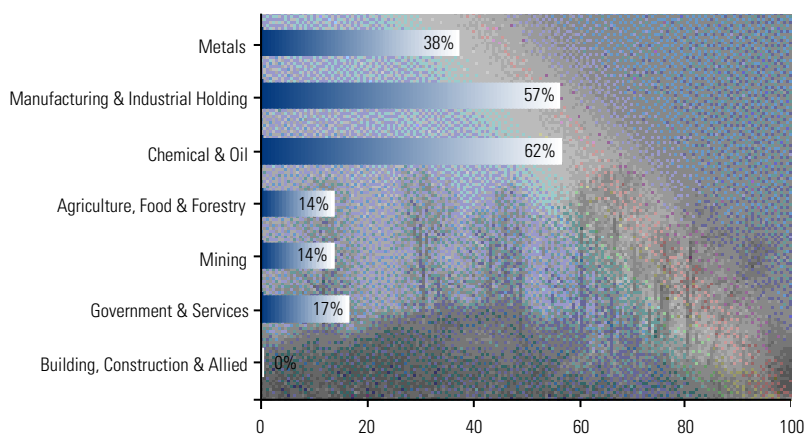
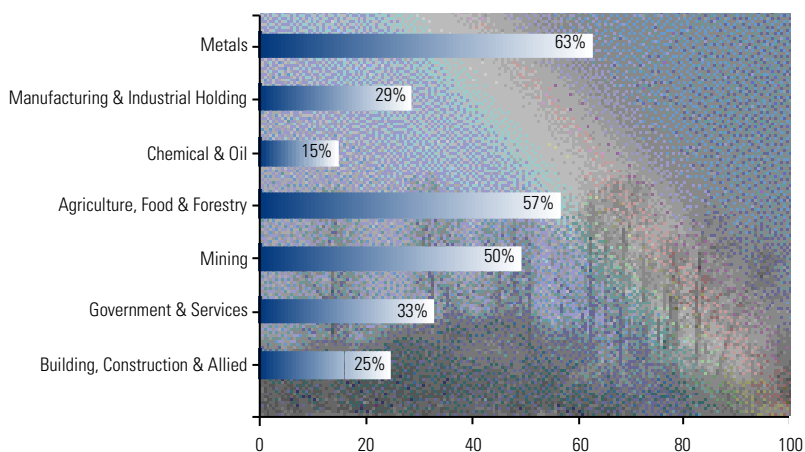


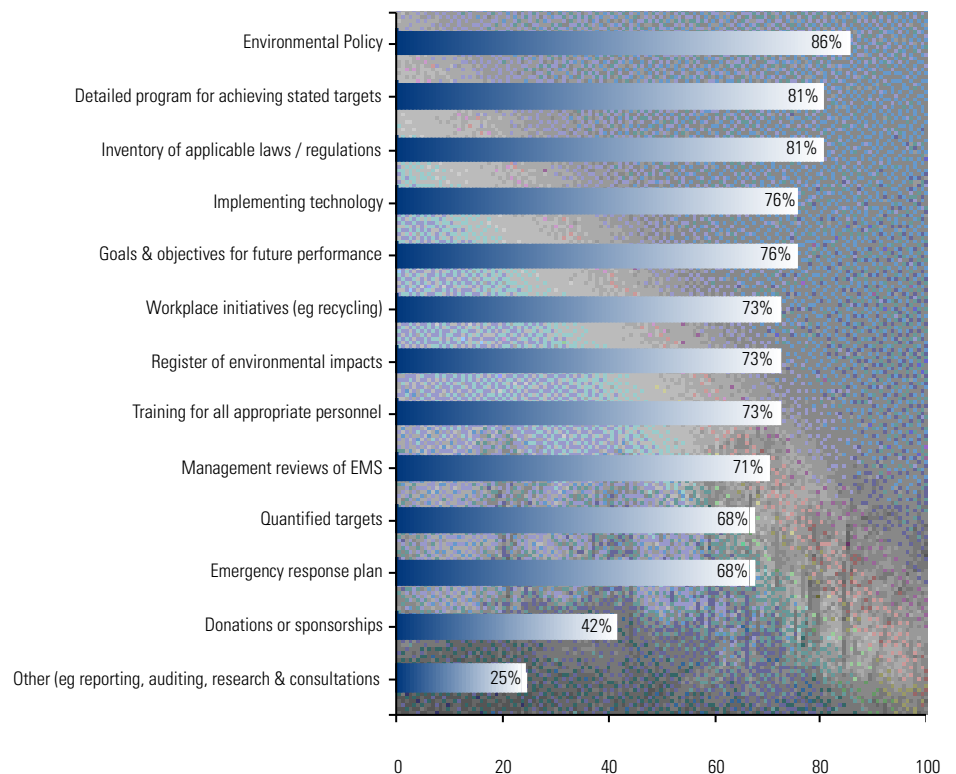
Figure 3b—ISO 14001 Planned Certification by Sector



Practices and procedures of EMS

The extensive use of ISO 14001 or another similar EMS guidelines has ensured a high level of implementation and consistency between respondents with regard to many of the basic elements of an EMS (figure 4). The cycle (order) of implementation of EMS components is reflected in the relatively high scores for the creation of an Environmental Policy (86%), while Quantified Targets against which to measure performance are still less common (68%) and environmental reporting, auditing, research and consultation are hardly mentioned. The low propensity to consider environmental donations or sponsorship as part of the EMS (42%) is surprising, but may reflect a healthy new focus on the core business implications of environmental issues, rather than the more superficial public relations or social responsibility approaches of the past.

Figure 4 —Typical Elements of an EMS

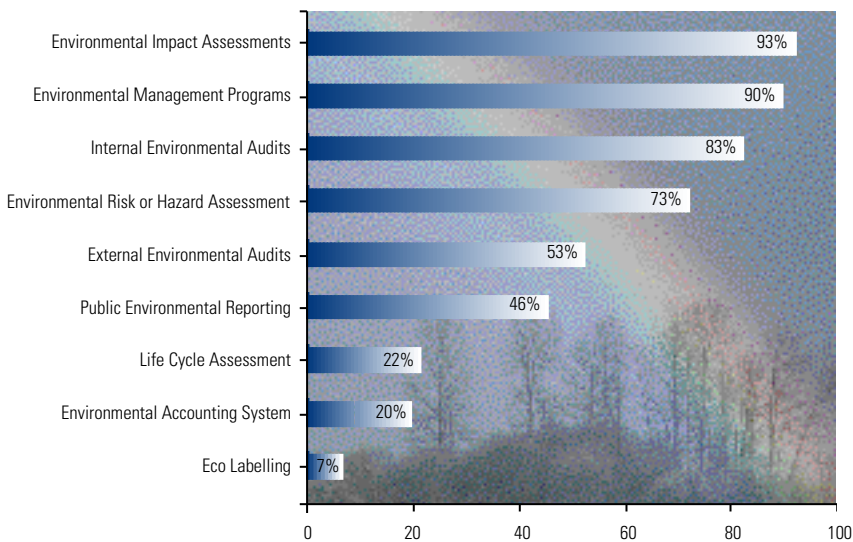


Tools and techniques in EMS

The tools and techniques employed by organisations to address environmental issues (figure 5) suggest an evolutionary pattern in which companies gradually increase the level of responsibility and accountability which they are prepared to accept.

Hence, techniques which are related to legal compliance, namely environmental impact assessments (93%) and environmental management programmes (90%), are more commonly used than tools for internal control, such as internal environmental audits (83%) and environmental risk assessments (73%). Outwardly-directed responsibilities in the form of external environmental audits (53%) and public reporting (46%) are practiced even less, while more complex systems for accepting wider accountability are rare, for example life cycle assessment (22%), environmental accounting systems (20%) and eco-labelling (7%).

Figure 5 – Tools and Techniques to support EMS



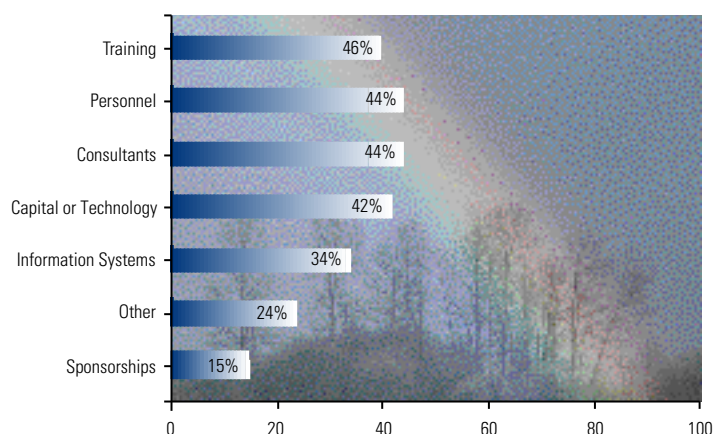
Financial benefits and costs of EMS

Only 25% of the organisations have financially quantified the benefits of their EMS, while 41% have quantified the costs. These low responses may reflect the misplaced perception that environmentally-related performance cannot be financially quantified.

More to the point, it reflects a lack of appropriate systems to achieve this goal. It is indicative that those organisations with an environmental accounting system showed a significantly higher quantification of benefits (38%) and costs (62%). The most commonly identified elements of environmental expenditure linked to EMS (figure 6) are people-related costs: training (46%), personnel (44%) and consultants (44%). Capital investments in process technology was also commonly cited (42%). Again, the low response may indicate the slow uptake of environmental accounting systems among sample organisations (only 20%).

Other examples of environmental expenditure included: awareness projects, environmental education (for local communities), research projects legal costs, conservation efforts, operating costs with environmental implications (e.g. rehabilitation, waste management, pollution control, water management), testing equipment, plant closure, care & maintenance and environmental development expenditure.

Figure 6 — Types of Financial Costs related to EMS



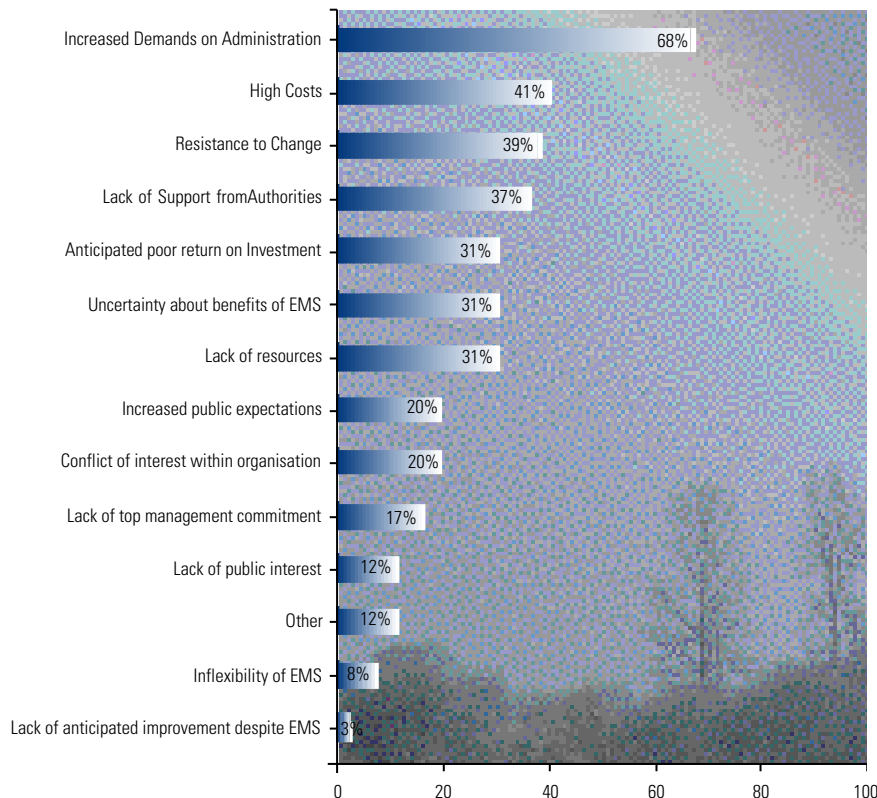
Problems experienced with EMS

The most commonly perceived disadvantages or problems of EMS (Figure 7) have four themes:

- Administrative - an increase in the demands placed upon administration (68%). This is of concern, given that the ISO 14001 was meant to be designed to be less “paper and documentation intensive” than the ISO 9000 quality system standards.
- Financial viability - high costs (41%), anticipated poor return on investment (31%) and lack of resources (31%).
- Internal support - resistance to change (39%), conflicts of interest within the organisation (20%) and lack of top management commitment (17%).
- External factors - increased public expectations (20%) and lack of public interest in the organisation’s environmental performance (12%).

The fact that a third (31%) of respondents cite uncertainty of the benefits of an EMS (31%) is cause for concern and somewhat incongruous with the high response to the question about EMS benefits. Perhaps, internal communication of these benefits is more the issue at stake.

Figure 7—Problems Experienced with EMS



Overall benefits of EMS

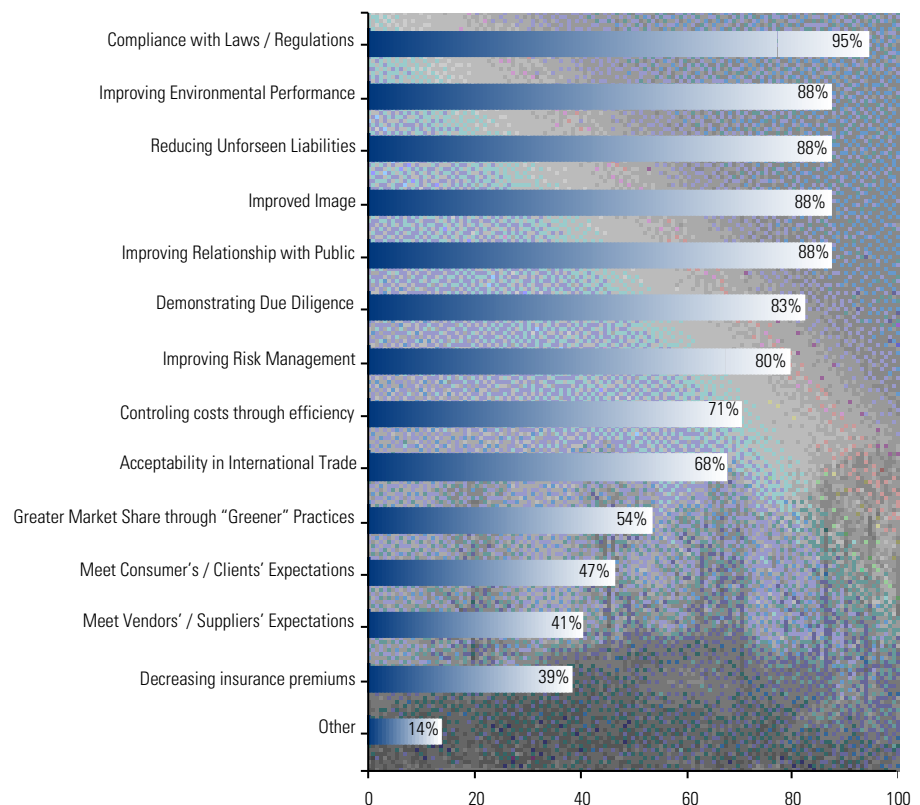
The most commonly perceived advantages of EMS (figure 8) have three themes:

- Managing risk - ensuring compliance with laws and regulations (95%), reducing unforeseen liabilities (88%), demonstrating due diligence (83%) and improving risk management, (80%).
- Public relations - improving the company's image (88%) and improving the relationship with the public (88%).
- Reducing impacts - improving environmental performance (88%).

Other benefits that were cited include: improving understanding of impacts through research, increasing environmental awareness of employees and stakeholders and more effective co-ordination within the organisation.

It is interesting to note that ISO 14001 certified companies were more likely to cite the advantages of EMS in every category of benefit. The greatest differences are ensuring acceptability in international trade, meeting the expectations of vendors and suppliers, meeting the expectations of consumers and clients and demonstrating due diligence in environmental management.

Figure 8—Benefits of EMS Implementation



Conclusions

The survey demonstrates unequivocally that a significant number of large South African companies are relating environmental issues to their core business by designing and implementing EMSs. Individual organisations' experiences of EMS, however, shows great diversity, whether in the guidelines used, techniques applied, elements included or associated problems, costs and benefits.

ISO 14001 has established itself as the undisputed EMS benchmark and looks set to drive significant change in high impact sectors like metals, manufacturing, agriculture, food, forestry and mining. Implementation of integrated environment, health and safety management systems will also likely increase, based on the trend being established by international organisations.

Environmental management remains poorly linked with financial management. This especially reflected the lack of financially quantified benefits and costs and the low incidence of environmental accounting systems currently in operation.

The motivation for SA organisations to invest in EMS is more driven by stakeholder pressure, public perceptions and regulatory compliance than by internal factors such the desire to increase the efficiency of resource use or achieve cost savings. Nevertheless, despite serious concerns about increased administrative load, numerous benefits of implementing EMS are widely recognised, not least of which is an improvement in environmental performance.

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Annexure A—Survey Sample

AECI Ltd	Ingwe Coal Corp *	Saldhana Steel (Pty) Ltd
Alpha Ltd	Iscor Mining (Iscor Ltd)	Samancor Ltd
Anglo American Coal Corp Ltd	Iscor Steel (Iscor Ltd)	Sappi Ltd
Anglo American Corp of SA Ltd*	JCI Gold Ltd	Sasol Alpha Olefins*
Anglo American Platinum Corp Ltd (AMPLATS)	Johannesburg Metropolitan Council	Sasol Ltd2
Anglo Gold Ltd*	Kersaf Investments Ltd*	Sasol Technology
Anglovaal Ltd	Knights Gold Mining Co Ltd*	Sentrachem Ltd*
Associated Chemical Enterprises	Kohler Corrugated (Kohler Ltd)*	Shell SA (Pty) Ltd
Associated Manganese Mines of SA Ltd	KWV Holdings (Pty) Ltd	St Helena Gold Mines Ltd / Goldfields Ltd
Associated Ore & Metal Mines Corp Ltd*	Middelburg Ferrochrome	Stellenbosch Farmers' Winery Group Ltd (SFW)*
Bayside Aluminium (ALUSAF (Pty) Ltd)	Mobile Telephone Networks (Pty) Ltd (MTN)	Stilfontein Gold Mining Co Ltd*
Beatrix Mine Ltd*	Mondi Ltd	T & N Holdings Ltd*
Bell Equipment Ltd	Moss gas	Telkom SA Ltd
Caltex Oil (SA) (Pty) Ltd	Nampak Ltd*	Tisand (Pty) Ltd3
Cape Metropolitan Council*	Natal Portland Cement	Tongaat-Hulett Ltd, The4
Columbus Stainless	NATCOS	Toyota SA Ltd
Crown Mines Ltd	National Chemical Products Ltd (Food Ingredients)*	Trans Natal Coal Corp Ltd*
CSIR (Internal Services)	National Petroleum Refineries of SA (Pty) Ltd (NATREF)	Transnet Ltd*
De Beers Consolidated Mines Ltd1	Nissan	Transvaal Sugar (Malenane Mill)
De Beers Marine (Pty) Ltd	Oryx Gold Holdings Ltd*	Umgeni Water
Durban Metropolitan Council	Palabora Mining Company Ltd*	Unitrans Ltd*
Elandsrand Gold Mining Co Ltd*	Pick 'n Pay Holdings Ltd*	Volkswagen of SA (Pty) Ltd
Engen Ltd	Polifin Ltd*	Western Areas Ltd
EnviroServ Holdings Ltd*	Pretorial Portland Cement Co Ltd (PPC)	Western Deep Levels Ltd
Eskom*	Rand Water	Woolworths Holdings Ltd
Foskor Ltd	Richards Bay Bulk Storage (Pty) Ltd	York Timber Organisation Ltd, The (YORKCOR)*
Gelvenor Textiles	Richards Bay Minerals (Pty) Ltd	
Highveld Steel and Vanadium Corporation Ltd	SA Forestry Co Ltd (SAFCOL)	
Impala Platinum Ltd		

Notes:

- * These companies failed to complete and return the survey questionnaire.
- 1 Survey questionnaires were returned for De Beers Namaqualand Mines, De Beers Orapa Mine and Debswana.
- 2 Survey questionnaires were also returned for Sasol Chemical Industries and Sasol Coal.
- 3 Survey questionnaires were returned for Richards Bay Minerals.
- 4 Survey questionnaires were also returned for African Products Ltd, Moreland Developments Ltd, Hulett Aluminium and Tongaat Textiles David Whitehead & Sons



Annexure B—Survey Questionnaire

1. How does your organisation manage environmental issues?

- ☐ Through responses to environmental problems and issues only as and when required
- ☐ Through several environmental initiatives and projects on specific issues, e.g. recycling, donations or sponsorships
- ☐ Through an EMS broadly based on environmental principles such as the IEF code of conduct or the ICC Business Charter for sustainable development
- ☐ Through an EMS developed to an internally defined corporate standard
- ☐ Through an integrated Environmental and Health and Safety (EHS) management system
- ☐ Through an EMS developed along external guidelines such as ISO 14001 but not planning to certify to that standard
- ☐ Through an EMS developed along the ISO 14001 EMS guidelines, with the aim of achieving certification to this standard
- ☐ Through an EMS already certified against the ISO 14001 EMS standard

2. Which of the following practices or procedures form part of your organisation's EMS?

- ☐ Environmental donations or sponsorship
- ☐ Recycling and energy saving in offices and site buildings
- ☐ Implementing technology that has environmental benefits
- ☐ A formulated and documented Environmental Policy
- ☐ Maintaining a register of significant environmental effects or impacts of the organisation's activities, products or services
- ☐ Goals and objectives for future environmental performance
- ☐ Quantified targets against which to measure environmental performance
- ☐ A program for achieving stated environmental objectives and targets, specifying e.g. the designation of responsibilities, allocation of resources and time frames
- ☐ An inventory or register of relevant legislative and regulatory requirements and procedures for updating these
- ☐ A training program for all personnel involved in environmental management or whose work may cause significant environmental impacts
- ☐ Emergency response plans or procedures based on a comprehensive hazard assessment
- ☐ Periodic management reviews of the suitability, effectiveness and adequacy of environmental initiatives and/or an EMS
- ☐ Other (specify): _____



3. Which of the following techniques form part of your organisation's approach to environmental issues?

- ☐ Environmental impact assessments
- ☐ Environmental management programs
- ☐ Environmental risk or hazard assessments
- ☐ Life cycle assessments
- ☐ Eco labeling
- ☐ Public environmental reporting
- ☐ Environmental accounting system
- ☐ Internal environmental audits
- ☐ External environmental audits (by whom?):

4. Have you quantified the financial benefits of your EMS?

- ☐ Yes (Financial benefits):
- ☐ No

5. Have you quantified the financial cost of your EMS?

- ☐ Yes (Financial cost):
- ☐ No

6. What does this cost include?

- ☐ Personnel
- ☐ Training
- ☐ Capital expenditure (i.e. process technology)
- ☐ Information systems
- ☐ Sponsorships
- ☐ Consultants
- ☐ Other:

7. What do you perceive to be the benefits of having implemented and of maintaining your EMS?

- ☐ Improving the overall level of environmental performance
- ☐ Improving the environmental risk management system
- ☐ Controlling costs through more efficient use of materials, resources and energy
- ☐ Increasing assurance of compliance with environmental legislation and regulations
- ☐ Reducing the likelihood of unforeseen environmental liabilities
- ☐ Demonstrating due diligence in environmental management
- ☐ Decreasing insurance premiums due to decreased environmental risk
- ☐ Potential increase in market share resulting from 'greener' practices, products and services
- ☐ Meeting the expectations of vendors and suppliers
- ☐ Protecting and enhancing the organisation's image
- ☐ Meeting the expectations or buying preferences of consumers or clients
- ☐ Ensuring acceptability in international trade and relations
- ☐ Improving the perceptions of the public and relationship with the community
- ☐ Other (specify):



8. What problems does your organisation experience in implementing environmental initiatives and/or an EMS?

- ☐ High investment costs
- ☐ Poor measurable return on investment or lack of anticipated cost savings
- ☐ Lack of top management commitment
- ☐ Uncertainty about the benefits of implementing an EMS
- ☐ Resistance to change in current business activities
- ☐ Lack of resources available for implementation
- ☐ Lack of public or stakeholder interest in improved environmental performance
- ☐ Potential for increased expectations by public and stakeholders
- ☐ Increased demands on administration and documentation
- ☐ Perceived or actual inflexibility of an EMS
- ☐ Lack of support, incentives and efficiency from government and local authorities
- ☐ Lack of improvement in environmental performance in spite of implementing an EMS
- ☐ Perceived conflicts of interest with other divisions, or business or corporate goals
- ☐ Other (specify):



Annexure C

Profile of Institute of Directors (IOD)

The Institute of Directors (IoD) was founded in London in 1903 and granted a Royal Charter by King Edward VII three years later. The Southern African Division of the Institute was formed in Johannesburg in 1960. Autonomy was obtained from the United Kingdom in 1985 with the Institute of Directors in Southern Africa established as an Association not for Gain.

The IoD in Southern Africa is the only organisation in the region which specifically represents directors and business leaders of the free enterprise system as individuals. Membership is widely representative of commerce, industry and the business professions.

The IoD works to establish and maintain contact at the highest level amongst business leaders providing a network of individual members totalling 85 000 in over 50 countries through affiliates which reach into every corner of business.

Despite the autonomy of the IoD in South Africa our members enjoy affiliation with other Institutes and full reciprocity with the use of all facilities provided by the IoD at its headquarters at 116 Pall Mall, London. The facilities include excellent meeting, office, conference and banqueting amenities, secretarial services, a business information centre and reference library as well as superb restaurants, bar and wine bar.

The majority of IoD activities are conducted via portfolio committees, including director development, professional standards, government liaison, functions, membership, publicity and environmental responsibility.

The Environment Portfolio Committee meets regularly, monitors and reports on pertinent environmental issues to directors and produces frequent publications, in particular the Green Leaf newsletter.

The IoD took the initiative in establishing what became known as the King Committee on Corporate Governance and is the prime motivator of good governance, business ethics, and the fight against corruption in South Africa.

Corporate governance is the way in which business enterprises are managed or governed. This included reporting to shareholders and stakeholders. These reports should address all material matters of significance to interested and affected parties, including the environment. Since publication of the King Report at the end of 1994 there has been a discernible improvement in the quality, transparency and comprehensiveness of company reports, which the IoD welcomes. This Environmental Management Systems survey, with which the IoD is pleased to be associated, further enhances good stakeholder communication.

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Annexure D

Profile of KPMG Environmental Unit

KPMG is one of the largest auditing and business advisory firms in the world, employing over 85 000 professional staff in 155 countries.

A world of experience in environmental management

KPMG's Environmental Unit embodies a number of critical competencies which make it an ideal partner for organisations developing and implementing high quality environmental management systems (EMS) or requiring other environmental services.

KPMG has an International Environmental Network, comprised of dedicated environmental practices in 27 countries on 4 continents employing 170 professionals. KPMG's environmental professionals combine qualifications, expertise and industrial experience in EMS, environmental reporting, environmental science, environmental law, health, safety and environmental management, research, marketing and training.

Environmental management systems

KPMG assists organisations in the design, implementation and auditing of EMSs, including to ISO 14001 standards. KPMG was the lead consultant to UNEP in the preparation of their EMS Manual and has prepared an international EMS Test Kit on behalf of the Dutch Ministry of the Environment.

Environmental training

KPMG offers training in the fields of EMS, environmental auditing and environmental and stakeholder reporting. The three training courses on EMS include: The 50-point EMS Introduction Plan; the 40-point EMS Improvement Plan; and the 100-point EMS Quality Plan.

Environmental reporting

KPMG offers both consulting and assurance services to assist organisations in the preparation, verification and promotion of environmental reports.

Environmental reviews

KPMG performs independent third party reviews on environmental impact assessments, environmental data systems, environmental management systems and environmental legal compliance.

Environmental assessments

KPMG conducts environmental impact assessments and environmental risk assessments in order to provide the basis for sound environmental management by organisations.

Environmental auditing

KPMG conducts various forms of environmental auditing, including legal compliance audits, EMS / ISO 14001 audits, financial audit assists and health, safety and environmental audits.

Environmental accounting

KPMG is pioneering the field of designing and implementing environmental accounting systems. This includes creating the environmental information systems capable of deriving environmental costs and anticipating and providing for environmental liabilities.

Environmental due diligence investigations

KPMG assists companies involved in various financial transactions, including mergers, acquisitions, takeovers and stock market listings.

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For more information

This survey is available electronically on the KPMG website at <http://www.kpmg.co.za>.

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