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NT TECHNICAL REPORT

Corporate environmental reporting
- Suggestions for an incremental and
standardised framework applicable to
a variety of companies especially small
and medium-sized enterprises

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**CORPORATE ENVIRONMENTAL REPORTING -
SUGGESTIONS FOR AN INCREMENTAL AND
STANDARDISED FRAMEWORK APPLICABLE TO A
VARIETY OF COMPANIES ESPECIALLY SMALL AND
MEDIUM-SIZED ENTERPRISES**

Laila Törnroos

Dissertation for the degree of Doctor of Science in Technology to be presented with due permission of the Department of Forest Products Technology /Helsinki University of Technology/ for public examination and debate in Auditorium E at Helsinki University of Technology (Espoo, Finland) on the 14th of January, 2005, at 12 noon.

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Title: Corporate environmental reporting - Suggestions for an incremental and standardised framework applicable to a variety of companies especially small and medium-sized enterprises		
Abstract: <p>Corporate environmental reporting is examined with the objective of contributing to the development of a commonly agreed framework and guidelines for environmental reporting. The framework is intended to be applicable to all kind of companies. However, the study considers the needs of reporting beginners and companies lacking resources for comprehensive reporting practices. The study includes environmental reporting on a generic level. The study pays attention to reporting practices in the Nordic countries and especially in Finland.</p> <p>A survey of 16 randomly selected Finnish companies, most of which are SMEs, was performed. Only a small number of the Finnish SMEs questioned had issued an environmental report or planned to do so. Lack of human resources in terms of time and expertise was one of the main reasons for not reporting. The companies were not motivated to report if stakeholders did not ask for reports. However, the companies were interested in environmental and in some cases social issues. They expressed the view that the guidelines should be brief, practical, concrete and sector specific. Comprehensiveness and complexity should be avoided. The study results on Finnish SMEs generally agree with previous studies on SMEs.</p> <p>A survey of the development of environmental reporting in seven selected Nordic companies showed that environmental information issued by the selected companies has decreased but reporting on social issues expanded which can probably be explained by the influence of the Global Reporting Initiative. The study shows that the Global Reporting Initiative guidelines have some weaknesses. There is a trend towards sustainability reporting though the concept of sustainability is not clear and is differently interpreted by the companies. No clear changes in reported environmental indicators can be seen.</p> <p>The empirical studies were complemented by a visit to the companies' websites. Though some of the companies provided comprehensive environmental information on the web pages information was seldom clearly structured.</p> <p>The results of the study show that there do not exist commonly accepted and standardised definitions of terms used for environmental reports. It is therefore suggested that vague wordings should be avoided and the terminology could be based on previous work in the environmental area. The reports could thus be titled "Environmental reports" with a clarification e.g. "Environmental report - Social aspects included". A model for a commonly accepted environmental reporting framework is suggested. The framework should be a standard. The framework offers reporting on defined levels where the lowest level is designed for SMEs or other companies lacking resources or interest for comprehensive reporting. The brief model is in its first stage and can only be characterised as an outline and an example to serve as input to further discussions. A common framework for providing environmental information on the web pages is also suggested.</p>		
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FOREWORD

For those who are interested, there is lot of information available concerning companies' environmental responsibility. Internet pages and printed matter provide a lot of interesting information in figures and words. Companies write about "Global responsibility", "For a sustainable world", "Developing innovative solutions", "Formation of photochemical solutions", "We're working" etc. There is something for everyone - except for those who want to make a quick and easy comparison of the companies.

Companies start publishing environmental reports, finish publishing environmental reports, change headings, change layout, although in actual fact not very much has taken place. Indeed, many companies have moved from clear environmental reports to reporting on social responsibility, but development seems anyhow to have stopped. The question now is how to come further.

It is known that the best way of restarting a stagnated process is to make a proposal that will start a debate. I have therefore found it important to present a concrete model on how further progress can be made. Whether the model is regarded as good or bad is of secondary importance. The most important thing is to create a reaction and to start the process.

The first obvious incentives for this thesis I received during many discussions with my students at Arcada Polytechnic (formerly Swedish Commercial College of Helsinki). In a new and honest way they expressed their views concerning companies and the environment. As ecological adviser at the Swedish Martha Association I came in contact with various interested parties, from radical environmental organisations to established business people and ordinary consumers. It became obvious to me that there was a need for honest, precise and relevant environmental information that can be understood by all parties.

At the Nordic Innovation Centre, NICE (formerly Nordtest) my interest in environmental science and research has grown. Through our competent network I was brought into contact with researchers specialising in environmental management and especially environmental reporting. As a member of SABE (CEN's strategic advisory body on environment) I have gained an insight into the interesting process of standardisation.

I want to express my gratitude to prof. Raimo Määttä, who encouraged me to start my postgraduate studies, and to prof. Pertti Hynninen who gave me valuable comments and encouraged me to continue to work when things did not go the way I wanted. I wish to thank prof. Olli Dahl who guided me through the last stages to the thesis. I am most grateful to my supervisor prof. Tuula Pohjola who guided and encouraged me through the whole process with great patience. I also want to express my warm thanks to Dr. Armi Temmes och prof. Raimo Lovio for their thorough and constructive reviews of the manuscript, which resulted in improvements in many places.

My thanks go to NICE for printing the thesis. I am indebted to Mr. Lewis Gruber for revising the English in the manuscript. Special thanks to all the companies I have interviewed for spending valuable time filling in the form. I was pleasantly surprised at their helpfulness and engagement.

Lastly I wish to express my warmest thanks to all my friends, my family and especially my dear husband Ragnar, who have supported and prayed for me during the whole work on the thesis

For we cannot do anything against the truth, but only for the truth
2 Co 13:8

Laila Törnroos

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ABBREVIATIONS

ANEC	European consumer voice in standardisation
BCSD	The Business Council for Sustainable Development
CEFIC	European Chemical Industry Council
CEN	European Committee for Standardization
CER	Corporate Environmental Report
CERES	Coalition for Environmentally Responsible Economies
COD	Chemical oxygen demand
CSP	Corporate Social Performance
CSR	Corporate Social Responsibility
DEFRA	UK Department for Environment, Food and Rural Affairs
ECI	Environmental condition indicator
EEA	European Environment Agency
EEB	European Environmental Bureau
EHS	Environment, Health and Safety
EMAS	EC Eco-Management and Audit Scheme
EMS	Environmental Management System
ENSR	European Network for SME Research
EPE	Environmental performance evaluation
EPI	Environmental performance indicator
FEE	European accountancy association (Fédération des Experts Comptables Européens)
GRI	Global Reporting Initiative
ILO	International Labour Organization
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
MPI	Management performance indicator
NGO	Non Governmental Organisation
OIFR	Occupational Illness Frequency Rate Indicator
OPI	Operational performance indicator
PIC	Prior Informed Consent
POPs	Persistent organic pollutants
SA8000	Social Accountability 8000
SAI	Social Accountability International
SME	Small and medium-sized enterprise
TBL	Triple Bottom Line
TC	Technical Committee
TRI	Toxic Release Inventory
UNEP	United Nations Environment Programme
WBCSD	World Business Council for Sustainable Development
WICE	World Industry Council for the Environment

1 INTRODUCTION

Environmental reporting is an important part of a company's management system for external communication. Many companies realize the value of voluntary reporting on company business environmental performance, in addition to financial results. Forward thinking companies note that a positive image projected through an environmental report is a powerful marketing tool. Various stakeholders e.g. banks, insurance companies and investors show an increasing interest in such information. An effective environmental report can help assure stakeholders of the company's strategy for continued financial success. A recent study (Murphy 2002) prepared by Business Ethics Magazine shows that firms which effectively address social issues also deliver better performance. Environmental reporting is a means of stakeholder communication.

1.1 BACKGROUND

Environmental reporting was widely practised during the 1990s. In the 1990s a remarkable increase in corporate environmental reporting, particularly in Europe and North America, can be seen. Earlier the industry played a more defensive role. Reporting was driven by NGOs (Non Governmental Organisations), the media and regulators. Environmental reporting has developed from reporting on solely technical issues to more comprehensive reporting including environmental management. During the last years a clear trend towards reporting on social issues is obvious.

The action plan for sustainable development *Agenda 21* – adopted by the world community in Rio in June 1992 – is a key factor in driving industry and business towards sustainable development. According to the Agenda 21 programme business and industry should be encouraged to adopt and report on the implementation of codes of conduct promoting the best environmental practice. Annual reporting is recommended (UN 1992, Rio Declaration, Chapter 30).

United Nations Environment Programme, Industry and Environment Office, published in 1994 a technical report on environmental reporting *Company Environmental Reporting – A Measure of the Progress of Business & Industry Towards Sustainable Development* (UNEP 1994). It is noted that company environmental reporting looks at the interplay between three core themes of corporate environmental management: responsibility, accountability and sustainability. In the UNEP Report 50 reporting ingredients are identified. This report is a key document on environmental reporting and has influenced further work in the area.

The EMAS (The EC Eco-Management and Audit Scheme) scheme was introduced and set up by Council Regulation 1836/93/EEC and it came into force in 1995. EMAS is a voluntary European Union scheme to register sites which have established an environmental management system (EMAS 1996). EMAS expects companies to give a periodic statement about their performance during the previous period. The Commission produced proposals to revise the Regulation. The new Regulation was adopted on 19 March 2001 (EC No 761/2001).

The ISO International Standard *Management – Environmental performance evaluation – Guidelines* (SFS-EN ISO 14031) deals with valuable guidelines that can be used for environmental reporting. ISO (the International Organization for Standardisation) is a world-wide federation of national standardisation bodies (ISO member bodies).

The Global Reporting Initiative (GRI) was established in 1997 with the mission of designing globally applicable guidelines for preparing enterprise-level sustainability reports (GRI, website 2002). The guidelines were first presented as an Exposure Draft for comment and pilot testing and this document was GRI's first major product (GRI 1999). In August 2002 the 2002 Sustainability Reporting Guidelines (GRI 2002) were released. The 2002 version of the Guidelines is the result of two years of testing and revision by stakeholders from around the world (GRI, Press release 2002). The GRI guidelines are a key document for environmental reporting and many organisations refer to the document.

The recent history of environmental reporting is studied by many authors. Wheeler and Elkington (2001) note a mainstreaming of environmental reporting during the last ten years. A respectable percentage of leading global corporations has produced some form of stand-alone environmental reports and independent verification of environmental statements is developed. Further, social reporting is established as a serious activity in a small but growing number of companies. Environmental reporting is undertaken by over 1000 companies in over 30 countries representing all major business sectors (FEE 2002). The majority of these reports originate from European companies. Line et al (2002) identifies a clear trend towards a new face of reporting that places more emphasis on social responsibility and notes that the number of companies adopting corporate social responsibility into their mainstream thinking is on the increase.

The consultancy KPMG performed a survey of corporate sustainability reporting in 2002 among almost 2000 companies (Kolk and van der Veen 2002). The results show that environmental reporting and the verification of these reports is becoming mainstream business. There is an increase in the number of companies issuing environmental reports, and along with the greater number of companies which report there is a great diversity in the types of reports issued. The majority of the reports are health, safety and environmental reports. However there is an increasing focus on social issues and an increasing number of companies that produce sustainability reports integrate social, environmental and economic performance. This trend is expected by KPMG to be continued in the following years.

Antal et al. (2002) point out four developments in the business environment that are especially relevant for corporate social reporting. The developments are firstly the globalisation of business activities as well as some of its constituencies, the expanded agenda, with the expectation of business accountability for a wide range of impacts on the social and natural environment, the emergence of mission and vision statements as a widely used communication and management tool and lastly the growth of the Internet as a means of rapid and interactive communication.

Within Europe, several countries have passed legislation aimed at increasing environmental reporting including the Netherlands, Denmark, Norway and Sweden. In 2001 the European Commission (2001) issued a "Recommendation on the recognition, measurement and disclosure of environmental issues in annual accounts and annual reports of companies". The report recommends that environmental issues should be disclosed to the extent that they are material to the financial performance or financial position of the reporting entity.

Nyqvist (2001) draws the conclusion that companies increasingly inform on environmental issues. She studied a lot of surveys and concludes that the surveys are in agreement. The end of the eighties is a turning point. At that time companies began to an increasing extent to issue environmental information. Although environmental reporting increased, the reports are not issued according to a common standard. It is, according to Nyqvist's study, difficult to compare reports from different companies and between different periods. The environmental improvements are hard to compare if the information is not quantified.

Beets and Souther (1999) also identify the necessity of environmental reporting standards which would especially benefit investors and other stakeholders by making the reports more consistent and comparable. They note that "...corporate environmental reports can disclose as much or as little information as corporations prefer in whatever format they prefer" (p. 136). Marshall and Brown (2003) indicate that there is a wide diversity of methods for presenting performance data across firms, industries and countries. One of the challenges faced in the environmental reporting area is the persistent lack of consensus on what and how to report. This raises concern about the content and quality of the reports (ibid). The European organisations ANEC (the European Consumer Voice in Standardisation) and EEB (the European Environmental Bureau) express their concerns about environmental standards systems since "no differentiation is made by good and bad performers" and present a list of recommendations that also concerns detailed reporting requirements (ANEC/EEB 2003). Cerin (2002) calls for stricter reporting rules and underlines that there is great variety in the content of what is reported. Moreover he discusses the credibility problem. There is a gap indicated between what companies state in their environmental reports and what they state in their annual reports and what they actually do in reality. Cerin concludes "If environmental reports are to be deemed credible, they have to be underpinned by a firm set of rules preventing opportunistic behaviour by reporting parties".

Sectorial differences concerning environmental reporting have been noted. For example the water and energy sectors are more frequently producing reports than the banking sector (Stray and Ballantine 2000) and industries such as petroleum refiners, steel works and hazardous waste management publish higher quality disclosure than other industries (Nyqvist 2001).

Organisations can be described as reactive or proactive (Larsen 2000). Reactive companies focus on meeting stakeholder expectations by creating environmental information on request. Proactive strategy means that the company sees environmental management as a means of improving their competitiveness through improved image and by moving beyond compliance. For most companies this kind of environmental strategy includes use of environmental reporting as a means of communicating their level of environmental performance. The development of ethical investment indices such as the Dow Jones Sustainability Group Index (Knoepfel 2001) and the FTSE4Good (FTSE, website 2003) reflects the increasing importance the market is placing on sustainability issues.

Corporate environmental reporting has rapidly become a primary channel for companies to communicate their strategies, objectives, practices and achievements in relation to traditional as well as new and emerging environmental management issues. External reporting is also integrally linked with the expanding range of environmental management tools such as auditing, life-cycle assessment (LCA) and full-cost accounting. As a result, it appears likely that such reporting will play a key role in driving the transition of companies, industries and, indeed, economies towards the ultimate goal of sustainable development.

1.2 THE RESEARCH PROBLEM

There is great variety in corporate environmental reporting. The financial market, the stakeholders and the companies themselves need to benchmark environmental performance of companies. Benchmarking is not easy since there are no standards or commonly accepted guidelines on environmental reporting. However, there can be seen a development towards commonly agreed practices. Some guidelines like those of UNEP and CERES (Global Reporting Initiative, GRI) are often used as frameworks for environmental reporting. Since many different practices have been evolved companies have to decide which framework to apply. A commonly agreed framework would make this choice easier. The great variety of

reporting practices gives rise to an obvious benchmarking problem. How to compare reports and companies' environmental performance?

The politicians discuss the concept of sustainability as a combination of environmental, social and economic issues. This has influenced the reporting practices and a number of companies have moved from plain environmental reporting to a broader reporting concept which also includes social issues. Various terms are thus used for environmental reporting, e.g. "sustainability reporting", "CSR (Corporate Social Responsibility) reporting" or plainly "social reporting". Furthermore a number of reporting concepts contribute to the debate on which term to use for environmental reporting. For example the Responsible Care program responds to the needs of the chemical industry and recommends "Health, Safety and Environmental (HSE)" reports to be published by their members. Owing to the variety of titles it is even more difficult to agree on what to report and how to do it.

Small and medium sized enterprises (SMEs) represent more than 99 % of the more than 20 million (non-primary sector) private enterprises operating in Europe and are therefore a very important part of its industrial system. About 19 million of these employ fewer than 10 people and SMEs account for two thirds of the jobs in private enterprises (European Commission 2004). SMEs form a very heterogeneous group and large differences exist between individual companies.

Although precise data are scarce, there is a general agreement within relevant literature (European Commission 2004) that SMEs exert considerable pressures on the environment. SMEs taken together could be responsible for up to 70 % of all industrial pollution. Individual SMEs are not big polluters but the effects they have collectively pose a great problem. Emissions to air, water and soil, non-efficient energy use and waste production are all considered as obvious problems (Ecotec 2000). These companies do not have the needed resources to do the research on how to report on environmental issues. The special challenges faced by SMEs in paying attention to environmental issues and environmental reporting are therefore important to study.

1.3 SCOPE OF THE STUDY

The aim of this thesis is to study corporate environmental reporting with the objective of contributing to the development of a commonly agreed framework and guidelines for environmental reporting. An important issue to settle is the real need for a commonly accepted framework. This is especially important in a pre-normative research which relates to activities which are likely to generate new matters for standardisation, corresponding to future needs for standards (CEN, website 2004). An initiative to standardisation work has to be properly verified. The reporting framework should be applicable also to reporting beginners and to companies lacking resources for comprehensive reporting practices. All companies and business sectors are of interest in this study. Of special interest are SMEs.

This work mainly focuses on corporate stand-alone environmental reports. The study includes environmental reporting on a generic level. However the study pays special attention to reporting practices in the Nordic countries and especially in Finland. The word "company" is used for the sake of simplicity, but the discussions are also relevant for other entities such as governmental bodies.

The research questions are thus:

- 1) Is there a need for a commonly accepted framework for environmental reporting?
- 2) If the answer to question one is *yes*, what should the framework include?
- 3) What are the needs of SMEs concerning a commonly accepted framework?

The study is divided into three parts to find answers to the above questions.

The literature study tries to find what is already done and what is under development in the environmental reporting area and pays special attention to commonly used environmental reporting terminology and reporting frameworks. This literature study does not claim to be a full study of environmental reporting but a cursory examination of the most important findings. The focus is therefore on finding main streams and on identifying main activities to see if these are sufficient to form a basis for a commonly accepted framework. The study will also give an indication on whether there is a need for a standardised framework or not. Present trends in the environmental reporting area are also of interest. The intention is to find input to a commonly agreed framework.

A number of Finnish SMEs are surveyed concerning their special needs for reporting guidelines. This is done by a questionnaire that is composed so as to invite the companies to express their views and ideas. Reporting practices are studied. Of special interest are motives for reporting or for not doing this. Can some reporting challenges be identified? What are the special needs of SMEs concerning environmental reporting? A literature study on barriers, drivers and suggestions for implementing environmental management systems and on environmental reporting by SMEs is performed. The purpose of this study is to get a background and to see whether the findings in the literature correspond to the findings concerning the studied Finnish companies.

Practised reporting trends are examined. Seven large Nordic companies are selected for a closer environmental reporting study. How have these companies' reporting practices developed during the period 1997-2001? The reports are studied to find ideas for the reporting framework. A complementary study of environmental reports for 2002 of the companies was performed to examine the influence of the GRI guidelines. Inclusions of GRI 2002 core indicators in the reports were analysed. For this purpose an evaluation tool partly based on GRI content index tables in the environmental reports of three award-winning Finnish companies was created.

1.4 THE RESEARCH METHODOLOGY

The thesis is in three parts; a theoretical literature review and two empirical sections. The first empirical section is based on a survey of 16 randomly selected Finnish companies. The companies are small and most of them are SMEs. The questionnaire was sent to the companies in summer 2002. The questions were chosen to survey the companies' environmental reporting practices and views. The questions were open-ended and invited the companies to express their views and ideas. No strict statistical research is performed. The results are compared to findings in the literature.

The second empirical part is a desktop survey of the development of environmental reporting in seven selected Nordic companies. Most recent environmental reports available in June 2002 are compared with the same companies' most recent environmental reports available in June 1999. The companies surveyed were all large companies. A subjective method

describing the reports was used to find overall trends. Both empirical studies were complemented by a visit to the companies' web pages.

A complementary study of environmental reports 2002 of the companies was performed to examine the influence of the GRI guidelines. Inclusions of GRI 2002 core indicators in the reports were analysed. For this purpose an evaluation tool partly based on GRI content index tables in the environmental reports of three award-winning Finnish companies was created. For the references the Harvard system, also called the name-and-year system, is applied. (Gustavii 2000)

1.5 STRUCTURE OF THE STUDY

The report is divided into five chapters, which address the following objectives:

1. Chapter one introduces the research problem. It begins by describing the background to the present situation concerning environmental reporting. The chapter continues by discussing the research problem, defining the scope of the study and presenting the research methodology.
2. Chapter two provides a literature review of environmental reporting. It deals with terminology and outlines various reporting initiatives. The chapter concludes by discussing terminology for reporting guidelines and by identifying needs for a commonly accepted framework for reporting. Is there a need for a standard? Suggestions concerning report titles are given.
3. Chapter three provides a study of environmental reporting practices and views in Finnish small and medium sized companies. The chapter presents the results from a study based on a survey of the Finnish companies. A questionnaire was sent to Finnish SMEs. The results show reporting practices, challenges and wishes and ideas concerning environmental reporting guidelines. The results are compared to findings in the literature.
4. Chapter four includes a desktop survey of the development of environmental reporting in seven selected Nordic companies. The results show environmental reporting trends including the influence of the GRI guidelines and identify the need for a commonly accepted framework for environmental reporting and give input to a reporting framework.
5. Chapter five discusses the thesis. The chapter presents a three level model for standardised environmental reporting and the way the environmental reports can be developed. Reporting on the web is also discussed. The results of the study are considered and evaluated and some suggestions for further research are presented.
6. Chapter six concludes the thesis.

2 REVIEW OF ENVIRONMENTAL REPORTING

2.1 INTRODUCTION

The term environment can be defined in many ways. The European Commission defines it as "... the natural physical surroundings and includes air, water, land flora, fauna and non-renewable resources as fossil fuels and minerals" (Commission Recommendation 2001/453/EC) and the international environmental management standard ISO 14001 (SFS-EN ISO 14001) as "surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna and their interrelation". Collins Dictionary defines the environment as "External conditions and surroundings in which people, animals or plants live" (Collins 1994).

If a company acts in an environmental way they will wish to assure their stakeholders of this. This assurance requires that organisations communicate their environmental activities which can be done in a number of ways. Environmental information may be disclosed in a variety of media, such as newsletters, bulletins, media releases, annual reports, Internet pages as well as stand-alone environmental reports with a growing incidence of separate environmental reports and Internet pages (Holland and Foo 2003).

Environmental strategy is in transition from a reductionist view of individual technologies in isolation to a holistic and interdisciplinary view of the relationship between technology, society and environmental impact (Vanek 2002). The sustainability concept is introduced by expanding the pure environmental area also to include social and economic aspects.

Over the past decade many organisations have contributed to the development of a commonly accepted framework for environmental reporting and issued over thirty standards (MacLean and Gottfrid 2000). Thus various recommendations exist but there are no commonly accepted or official standard guidelines for environmental reporting.

Corporate environmental reporting belongs to a multidisciplinary area concerning technical, social and economic sciences. The issue is of great interest not only to universities and research institutes but also to business and industry organisations. Many reports, articles and standpoints are therefore issued by organisations serving companies in this area. Since the business and industry sectors are dominant in the environmental reporting area the views presented by the sectors consequently also occupy a prominent position in this literature study.

A lot of literature is written in the environmental reporting area. This literature study does not claim to be a full study of environmental reporting but a cursory examination of the most important findings. Focus is therefore on finding main streams and on identifying key actors. Present trends in environmental reporting are also of interest. In recent years many reporting initiatives, codes and guidelines have emerged. Some environmental reporting guidelines are selected for a closer study.

The literature review has two main objectives. The first one is to discuss terminology in the environmental reporting area with the purpose of finding a suitable term for reports which include all three aspects of sustainability, i.e. environmental, social and economic issues. What should we call the reports?

The other objective is to find an answer to the question whether there is a need for a commonly accepted framework of environmental reporting. Can some of the existing

initiatives serve as input to the framework? Should the framework be prepared as a standard by an independent standardisation body? The first and very important step in a standardisation process is to define the need for the standard (Maxiquest-Norm, 2003). This work is thus pre-normative in supporting future trends in standardisation. Lastly the study provides recommendations concerning the terminology and the reporting framework.

2.2 ENVIRONMENTAL REPORTING AND ASSOCIATED TERMS OF IMPORTANCE FOR THIS STUDY

Many companies report solely on their environmental performance but there is a clear trend towards including information on a broader range of issues concerning health and safety, social and economic factors. There is a move towards what is commonly described as double or triple bottom line reporting or sustainability reporting which includes environmental, social and economic issues. The term corporate social responsibility (CSR) has been evolved as well. This variety in terms is reflected in what a company chooses to call their environmental report.

The main terms used are as follows:

- Environmental
- Sustainability
- Corporate Social Responsibility, CSR
- Social
- Triple Bottom Line (TBL)
- Environment, Health and Safety, EHS

In addition to the terms presented above and a combination of these, companies choose to use a great variety of terms for their environmental and social reporting e.g. "environmental accounts". Some examples can be found in Table 4.2 in section 4.2.8. In the following, key terms used in this thesis are briefly explained to form a basis for further discussion.

Kolk (2000) defines environmental declarations as written guidelines, recommendations or rules issued by a firm which lay down or intend to lay down its behaviour or principles with regard to the environment. Environmental reports are "publicly available publications in which a firm gives an account of its environmental or environmentally related activities and results in a specified period of time, usually a year." (p. 130)

Emtairah (2002) defines environmental reporting as an umbrella term that describes "the various means by which companies disclose information on their environmental activities." (p. 7) He makes a distinction between environmental reporting and corporate environmental reports (CERs), which "represent only one form of environmental reporting. CERs are publicly available, stand-alone reports issued voluntarily by companies on their environmental activities". Environmental reporting can thus be categorised into reporting with mandatory disclosure e.g. the Toxic Release Inventory (TRI) in the USA and voluntary disclosure e.g. the Eco Management and Audit Scheme (EMAS) and any environmental information a company makes available to the public.

On the European level more mandatory schemes for corporate environmental information in annual reports for companies will be expected. The European Commission made recommendations on 30 May 2001 to member states to take action to promote disclosure of environmental issues in the annual accounts and annual reports of companies (Commission Recommendation 2001/453/EC). This recommendation has been discussed ever since it was

made. In June 2002 the Third Round Table on CSR Reporting was held and voluntary contra mandatory reporting was made the subject of an open debate. One topic for discussion was the need of involving SMEs in reporting initiatives "but attention not to impose more red tape on them" (European Commission, website 2002)

2.2.1 SUSTAINABLE DEVELOPMENT AND SUSTAINABILITY

The concept of sustainable development has come to dominate in the environmental debate. In 1987, the World Commission on Environment and Development, appointed three years earlier by the U.N. General assembly and headed by the Norwegian Prime Minister Gro Harlem Brundtland, made sustainable development the theme of its entire report, *Our Common Future* (UNWCED 1987, p.43) The report defines the concept simply as a form of development or progress that

Meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

The international standard ISO 14050 defines it in almost the same way "meeting the need of the present without compromising the ability of future generations to meet their own needs" (SFS-ISO 14050, 2002)

Sustainable development includes three areas: economic growth, ecological balance and social progress. These three items have always been on the sustainability agenda, but until recently the third - the social part - has received less attention. Greater emphasis is now placed on social progress, and specifically on what business is doing to contribute to this goal, and how it is delivering its contribution (Stigson 2000). Although sustainable development has been interpreted primarily as a global or a national goal, there is an increasing discussion of the "sustainable business". A discussion on sustainability is a multidisciplinary discussion involving several disciplines e.g. technology, economics and natural sciences. Technical and natural sciences are exact sciences and it is therefore of interest to study what accounting, which operates with concrete figures, has to contribute to the debate on sustainability.

Bebbington and Gray (2001) state that it is a genuinely dangerous attempt to reduce "a concept as rich and diverse as sustainability sufficiently to fit within a straightjacket of accounting" (p. 558). The authors refer to the Brundtland report and draw the conclusion that we have little to guide us in making detailed statements about sustainability. They also go on to conclude that sustainability is more than a new word for the environment. Sustainability is concerned with both the sustenance of the natural ecology and justice and equity in society. Consequently, eco-efficiency (see 2.2.5) issues are concerned with the ecological aspects of sustainability and eco-justice issues focus on social and equity related concerns, which arise from development (distribution of the costs and benefits of development). Furthermore the authors conclude that this framing device is useful but artificial and that the limitations should be recognized: "It is, in most instances, impossible to simplify and easily separate ecological and social aspects of development" (p. 560).

The World Business Council for Sustainable Development (WBCSD) is one of the key players in the corporate sustainability arena. WBCSD is a coalition of 150 international companies from more than 30 countries and 20 major industrial sectors. In a WBCSD report, Holliday and Pepper (2001, p.2) explain sustainable development as follows:

Sustainable development is about ensuring a better quality of life for everyone, now and for generations to come. Thus it combines ecological, social, and economic concerns, and offers business opportunities for companies that can improve the lives of the world's people.

Holliday and Pepper stress a holistic approach to markets and sustainability by introducing seven keys for progress within the market system. The seven keys are presented in Table 2.1.

Springett (2003) underlines that the general lack of an inclusive discourse seems to have resulted in certain elites dominating and controlling the language of sustainable development. Springett concludes that managers have a very sketchy understanding of the concept; they know some aspects of environmental management but lack a holistic and deep understanding. Atkinson (2000) notes that firms like to stress the numerous definitions of sustainable development that are proposed, which means that sustainable development or sustainability can be defined to "mean anything and to justify any behaviour" Atkinson underlines that one means of distinguishing credible statements is with reference to a well grounded theory of sustainability.

Korhonen (2003) concludes that sustainability is "impossible to define and very difficult to measure" (p. 37) especially in monetary terms, but that there anyhow exists information enough to define the direction toward which companies should strive. Keeble et al (2003) explain that the difficulty in measuring sustainability performance is further complicated by the fact that many firms have a complex organisational structure.

Table 2.1. A holistic approach to sustainable development presented by Holliday and Pepper (2001).

SUSTAINABILITY THROUGH THE MARKET	
SEVEN KEYS TO SUCCESS	SEVEN VALUE PROPOSITIONS
1. Innovate	Novel technical and social resources - new ways to improve lives while boosting business
2. Practise eco-efficiency	Economic benefit and environmental performance
3. Move from stakeholder dialogues to partnerships for progress	Shared understanding, aligned action and social inclusion
4. Provide and inform consumer choice	A different type of demand by enhancing appreciation for values that support sustainability
5. Improve market framework conditions	A stable, corruption free, socio-economic framework that facilitates positive change
6. Establish the worth of Earth	Environmental conservation and promotion of resource efficiency
7. Make the market work for everyone	Economic benefit and social cohesion

One practical problem arises when companies regard themselves as committed to sustainable development and consequently want to create sustainability reports. A number of companies have issued reports with the word "sustainable" or some deviation from it in the title, but many of these focus largely on environmental, health and safety issues and conversely others deal with the environmental social and economic issues but do not term the reports "sustainability reports" (Bennet and James 1999)

2.2.2 CORPORATE SOCIAL RESPONSIBILITY, CSR

The United Nations World Summit on Sustainable Development (UN 2002) stated in its key commitments and targets in the outcome of the summit to "Actively promote corporate responsibility and accountability, including through the full development and effective implementation of intergovernmental agreements and measures, international initiatives and public-private partnerships, and appropriate national regulations."

Carroll (1999) makes a historical review of the definitions of corporate social responsibility and starts in the beginning of the 1950s, which marks the modern era of CSR. Definitions expanded during the 1960s and proliferated during the 1970s. He goes on and notes that in the 1980s, there were fewer new definitions, more empirical research, and alternative themes began to mature. These alternative themes included corporate social performance (CSP), stakeholder theory, and business ethics theory. In the 1990s, CSR continues to serve as a "core construct but yields to or is transformed into alternative thematic frameworks".

Many organisations and authors have tried to define CSR. The World Business Council for Sustainable Development (WBCSD 2001) defines CSR as follows:

The commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life.

The WBCSD underlines that environmental concerns are part of a company's CSR. In their discussion on CSR it is underlined that social responsibilities of companies will be viewed very differently with regard to the sectors they represent. Society's expectations will also change over a period.

The ENSR (The European Network for SME Research) evolves the concept of CSR and explains that CSR can be seen as an integral part of the sustainable development concept. CSR can be understood as the business contribution to sustainable development. "In this context, social and environmental responsibilities are not separate but two sides of the same coin, e.g. the responsible business" (Isusi 2002).

In its Green Paper on CSR (COM (2001) 366) the European Commission establishes that there is no commonly accepted definition of corporate social responsibility and that most definitions describe the concept as "a concept whereby companies integrate social and environmental concerns in their business operations and their interaction with their stakeholders on a voluntary basis". The Commission explains that being socially responsible "means not only fulfilling legal expectations, but also going beyond compliance and investing "more" into human capital, the environment and the relations with stakeholders". In the introduction of the report the following definition for CSR is used:

Corporate social responsibility is essentially a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment.

The EC Green Paper on CSR was circulated for public comment and a number of organisations, inter alia CEN (the European Committee for Standardization), responded. CEN brings up the difficulty in measuring CSR and notes that at present there does not exist any standardisation programme in the field of CSR (CEN 2001) and that potential CEN standards would not aim to define levels of social performance. CEN could provide mutual understanding through concept definitions and terminology in CSR. Guidance documents and documents on basic management systems could be considered to cover CSR aspects.

Carroll (1999) also points out the measurement problem. He thinks that it is expected that attention will be given increasingly to measurement initiatives as well as theoretical developments and states that empirical research is doubtless needed so that practice may be reconciled with theory. Carroll concludes that the CSR concept will remain as an essential part of business language and practice, because it is consistent with what the public expects of the business community today.

The ISO Advisory Group on Social Responsibility was founded in 2002 and the group has issued its *Working Report on Social Responsibility* (ISO 2004) where the need for ISO deliverables in the field of corporate social responsibility is discussed. The report serves as a base for further work and does not thus give any absolute answers. One of the important issues in the ISO report concerns terminology. The report underlines that while the term "corporate social responsibility" is widely used other terms are also used including "corporate responsibility", "corporate citizenship", "corporate integrity", "organizational responsibility" and "social responsibility". All these terms put a slightly different emphasis on one or the other aspects of CSR. CSR and "sustainability" cannot be used to express the same ideas since "sustainability" is a broader concept and "sustainable development" encompasses "both voluntary and non-voluntary approaches and involves actions and policies that can only be taken by governments or intergovernmental organisations." (p. 25)

Van Marrewijk (2003) emphasises the problem that "hundreds of concepts and definitions have been proposed referring to a more humane, more ethical, more transparent way of doing business" (p. 95) and underlines that a clear and unbiased definition and concept of CSR will be needed to lay a strong foundation for future work in the area. The current definitions are often biased towards specific interests. Although there are numerous definitions Enderle (2003) underlines that in business circles even the term "responsibility" is only intuitively understood and that surprisingly little analysis of this concept can be found in literature on business ethics.

A recent study (Panapanaan et al. 2003) reviews the Finnish business perspective on CSR and indicates that it is difficult to find a general definition of CSR in Finnish companies. Definitions suggested by the companies studied range from "compliance with the Finnish laws and regulations, as well as international declarations" to "doing business right based on Finnish high regard for morality and business ethics" (p. 136)

2.2.3 THE TRIPLE BOTTOM LINE

The Triple Bottom Line (TBL) term was coined by John Elkington (1997) who is co-founder of the consultancy SustAinability (SustAinability, website 2002), which e.g. has written reports for the UNEP. SustAinability declares that if a company aims at being sustainable in a long run perspective it must be financially stable, it must minimise its negative environmental impacts and it must act in conformity with societal expectations. SustAinability continues to explain that "The triple bottom line focuses corporations not just on the economic value they add, but also on the environmental and social value they add – and destroy. At its narrowest, the term 'triple bottom line' is used as a framework for measuring and reporting corporate performance against economic, social and environmental parameters. At its broadest, the term is used to capture the whole set of values, issues and processes that companies must address in order to minimize any harm resulting from their activities and to create economic, social and environmental value. This involves being clear about the company's purpose and taking into consideration the needs of all the company's stakeholders – shareholders, customers, employees, business partners, governments, local communities and the public."

The Triple Bottom Line concept is explained in the Canadian Stepping Forward report (Stratos 2001) as follows:

Triple Bottom Line

- Sustainability

Double Bottom Line

- Environment & Economic
- Economic & Social
- Environment & Social
- EH&S (Environment, Health and Safety)

Single Bottom Line

- Environmental
- Economic

Stratos describes triple bottom line reporting as issuing information on a broader range including health and safety, social issues and economic factors. It is underlined that a triple bottom line approach requires "an integrated vision".

Clarke (2001) also emphasises the three dimensions of the Triple Bottom Line and says that "instead of performing to a single financial bottom line, perform to a social bottom line and an environmental bottom line also" (p.18). He underlines that there is a long way to go in the triple bottom line reporting by clarifying terminology and synthesizing approaches. Measurement techniques should be translated into better management of key resources, and standards of external audit and verification should be improved.

McDonough and Braungart (2002) consider the triple bottom line as a useful tool for integrating sustainability into the business agenda but want to take business beyond sustainability which they regard as a minimum condition for survival. They introduce the new design perspective *Triple Top Line* which shifts the focus of the design process from negative value judgment to questions of quality. McDonough and Braungart want to create the foundation of a system in which products and industrial processes are so intelligently designed they don't need to be regulated. "Instead they create wholly a positive effect, a large and beneficial ecological footprint. We might call this new world of commerce *sustaining* rather than sustainable, which suggests to us a more fulfilling agenda than the maintenance of a damaging system" (p. 252). Thus is the concept of "sustaining" added to the large number of concepts describing ethical behaviour in business.

2.2.4 ENVIRONMENT, HEALTH AND SAFETY

Responsible Care is an obligation of membership in Chemistry Councils. The concept of Environment, Health and Safety (EH&S) is an essential part of the Responsible Care programme. The letters can be presented in different order and companies thus discuss EH&S, HS&E or SH&E performance. Responsible Care is a commitment by the chemical industry to continuously improve its SH&E performance (CEFIC 2002). Responsible care is managed by industry and focuses on improving performance, communication and accountability. Responsible Care started in 1984 in Canada and is now in 46 countries where more than 85 % of the world chemicals (in volume) are manufactured (ICCA 2002)

The American Chemistry Council (website 2002) requires member companies to:

- Continually improve their health, safety and environmental performance;
- Listen and respond to public concerns;
- Assist each other to achieve optimum performance; and
- Report their goals and progress to the public.

The data generated is reported annually to the stakeholders "in the spirit of Responsible Care" (CEFIC 2002). The CEFIC (European Chemical Industry Council) guidance to report on distribution incidents covers 18 parameters. The newest parameters are Hazardous waste for disposal, Non-hazardous waste for disposal and Occupational Illness Frequency Rate Indicator (OIFR).

Differences in legislation, culture and occupational health practices in different countries make it difficult to report on a truly comparable basis. This concerns especially OIFR. Most Federations use a standard questionnaire to obtain the data from member companies.

2.2.5 ECO-EFFICIENCY

The concept of eco-efficiency appeared in the 1990s involving many international organisations, research institutes and business associations (Anite 1999). The common approach of the eco-efficiency concept combines environmental and economic performance into an efficiency ratio.

The Business Council for Sustainable Development (BCSD) coined the term eco-efficiency to describe "*a process of adding ever more value while steadily decreasing resource use, waste and pollution*". (Schmidheiny and Zorraquin 1996). WBCSD was formed in 1995 through the merger of BCSD and WICE (World Industry Council for the Environment). BCSD offered the 1992 Earth Summit a "business perspective" to sustainable development and faced the problem of finding something to say that made sense in terms of environment and sustainable development but that also honoured the basic realities of the marketplace. Thus the concept of eco-efficiency was launched, which "denotes both economic and ecological efficiency". The term eco-efficiency was actually first used by the researchers Schaltegger and Sturm in 1990 (1990 quoted in WBCSD 2000). Many business leaders often express eco-efficiency as

Creating more value with less impact or Doing more with less.

Nokia (website 2003) for example interprets the term as "Eco-efficiency is all about producing better results from less in terms of materials and energy".

WBCSD (2000) identified seven elements that businesses can use to improve their eco-efficiency. Thus the discussion on sustainable development was put on a concrete level. The seven elements are as follows:

- Reduce material intensity
- Reduce energy intensity
- Reduce dispersion of toxic substances
- Maximize use of renewables
- Extend product durability
- Increase service intensity

WBCSD developed eco-efficiency indicators, which were tested in a pilot programme in 10 different industry sectors (Verfaillie and Bidwell 2000). A small number of indicators "generally applicable" were identified as being valid for virtually all businesses. Other indicators are "business specific" which need to be used by individual companies to fit their particular context. The eco-efficiency indicators according to WBCSD are based on principles which ensure that they are "scientifically supportable, environmentally relevant, accurate and useful for all kind of businesses around the globe."

The indicators are based on the eco-efficiency formula (Anite 1999), which brings together economy and ecology to relate product or service value to environmental influence.

Eco-efficiency metric is represented by:

$$\text{Eco-efficiency} = \frac{\text{Product or service value}}{\text{Environmental influence}}$$

The generally applicable indicators for product/service value are "Quantity of goods or services produced or provided to customers" and "Net sales". Those relating to the environmental influence in product/service creation are "Energy consumption", "Materials consumption", "Water consumption", "Greenhouse gas emissions" and "Ozone depleting substance emissions". WBCSD presents additional indicators as generally applicable if current efforts to develop global agreement on measurement methods are successful. Additional indicators are "Additional financial value indicators", "Acidification emissions to air" and "Total waste".

WBCSD underlines the importance of trend data so that changes in performance over time can be assessed. Data can be presented as:

- Absolute figures
- Eco-efficiency ratios
- Figures indexed to a selected year
- Figures expressed relative to a projected goal
- Figures expressed relative to an industry average

Lehni (2000) analyses the WBCSD eco-efficiency indicators and remarks that even if the indicators are valid for virtually all businesses, they may vary in value or importance for a given company. The indicators are not necessarily comparable between different businesses. He also underlines that there are numerous possibilities to calculate eco-efficiency with the above equation. The eco-efficiency term can thus be applied and understood in different ways.

Rebekah Young at WBCSD refers in an e-mail conversation (Young 2003) to the debate over the different variations of the definitions of eco-efficiency and writes "The WBCSD has decided on the definition as 'value over impact' since it is more logical to say that eco-efficiency (indicators) should increase to make progress. An efficiency indicator should increase in order to depict that efficiency is improving; whereas a definition 'impact over value' should be called intensity indicator, not efficiency indicator. However many use the efficiency indicator term interchangeably, making it confusing." Young continues to explain that use by companies is mixed and notes that some use "value over impact" and that others use "impact over value".

2.3 ENVIRONMENTAL REPORTING INITIATIVES

2.3.1 UNEP

United Nations Environment Programme (UNEP), the Industry and Environment Office, published in 1994 a technical report on environmental reporting *Company Environmental Reporting – A Measure of the Progress of Business & Industry Towards Sustainable Development* (UNEP 1994). This report turned out to be an important document forming a basis for many other reporting initiatives.

The report focuses on the first wave of reports from 100 companies operating – for the most part – in Europe, North America and Japan. The environmental reports of these 100 companies are surveyed from the standpoint of the interplay between three core themes of corporate environmental management: responsibility, accountability and sustainability. Five levels of corporate environmental disclosure are identified. See Fig. 2.1.

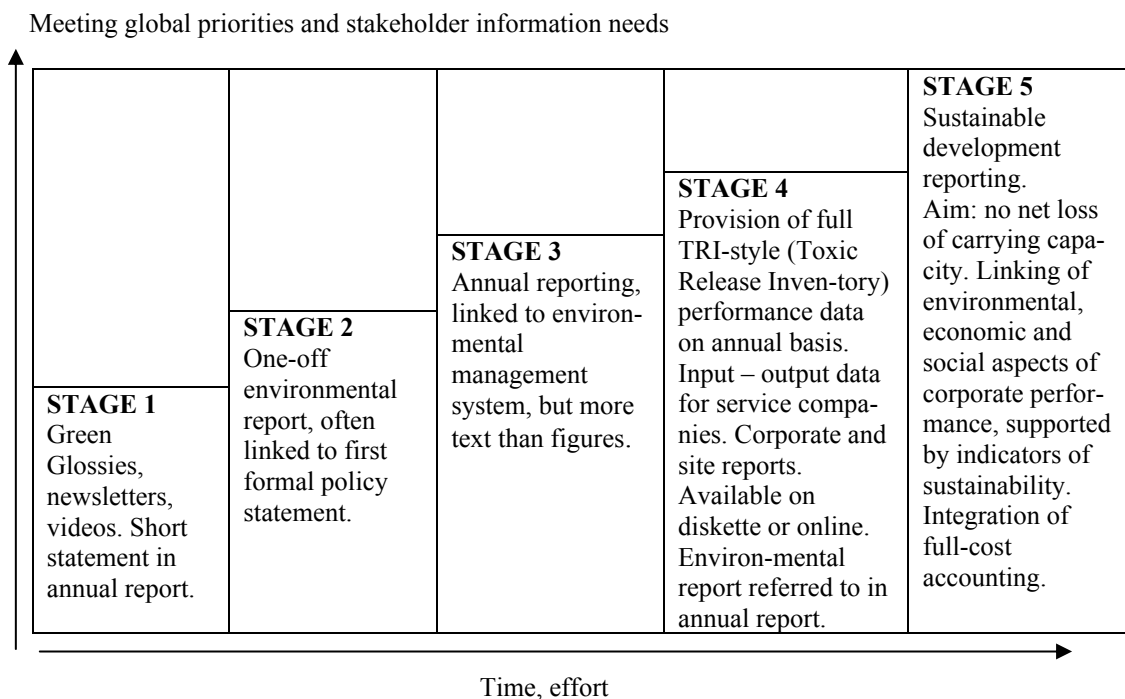


Fig. 2.1. Stages in corporate environmental reporting according to UNEP (1994)

It was established that many (39 %) of these 100 reports were still at Stages 1 or 2, a quarter (25 %) of the companies surveyed were at Stage 3, with a further 11 % making the transition to Stage 4. Only 5 % had reached Stage 4. Stage 5, which will be based on the extensive use of quantitative methods (such as life-cycle assessments and mass balances) and on strong links with industry-wide and national sustainable development reporting against pre-agreed targets, remains largely an unexplored territory.

Three main types of reporting are highlighted in the UNEP report.

- Reporting at a mandatory level
- Reporting at the level of the individual firm or the industry sector
- Reporting at the site or corporate level

There are positive synergies to be found between the different levels in each of these reporting categories.

The UNEP report identifies 50 reporting ingredients. The reporting ingredients were identified on the basis of an analysis of what companies are reporting and on what they need to report to meet emerging stakeholder expectations. They are grouped in five sections as follows:

1. Management policies and systems
2. An input/output inventory of environmental impacts of production processes and products
3. The financial implications of environmental actions
4. Relationships with environmental stakeholders
5. The sustainable development agenda

It is underlined that the 50 ingredients should not be viewed as reporting standards, but rather as a set of basic building blocks, which companies can use to construct their reports according to their own priorities.

Chapter 6 *Reporting on a shoestring for small- and medium sized companies* notes that SMEs have neither the public profile nor the resources to prepare a lengthy report but that they are unlikely to be exempt from the need to report for long. Out of the 50 reporting elements discussed a core set of 20 elements are identified as a suitable framework for reporting by SMEs. The core elements are picked out from the sections presented above and they are as follows:

1. Management policies and systems

- The company's latest environmental policy statement, with dates of any reviews
- A description of the company's environmental management system
- An outline of management responsibilities and reporting links for environmental protection
- An account of the company's legal compliance record

2. An input/output inventory of environmental impacts of production processes and products

- Materials use and trends
- Energy use and trends
- Water consumption and trends
- Health and safety
- Environmental accidents
- Major waste streams
- Air emissions
- Water effluents
- Product impacts during use

3. The financial implications of environmental actions

- The level of environmental expenditure
- The extent of the company's environment-related liabilities

4. Relationships with environmental stakeholders

The environment report should demonstrate how the company is working with the key stakeholder groups, which are as follows:

- Its own employees
- Government (both legislators and regulators)
- The local communities near the company facilities
- The company's involvement in any relevant initiatives launched by business and industry associations

5. The sustainable development agenda

No indicators on the Sustainable development agenda are mentioned.

"The broad sustainable development agenda can be broken down into four ingredients: global environmental issues, global development issues, technology cooperation and global operating standards". The report explains that the sustainable development agenda includes all the four clusters mentioned above and social factors, but stresses strongly the global perspective. To report on the sustainable development agenda is a requirement for large companies, but not for SMEs.

2.3.2 EMAS and BS 8555

EMAS

EMAS (The EC Eco-Management and Audit Scheme) is a voluntary European Union scheme to register sites which have established an environmental management system (EMAS 1996). The EMAS scheme was introduced and set up by Council Regulation 1836/93/EEC EMAS and the scheme came into force in 1995. The Commission produced proposals to revise the Regulation. The new Regulation was adopted on 19 March 2001 (EC No 761/2001).

The Eco-Management and Audit Scheme (EMAS) aims to promote the use of environmental management systems as a tool for systematic and periodic evaluation of environmental performance auditing in industry, the service sector and public administration. EMAS (1996) expects companies to give a periodic statement about their performance during the previous period. Furthermore, EMAS expects a set of current performance data and notice of any particular plans for the future that may have an effect upon the environmental performance of the organisation, whether detrimental or beneficial. The policy statement, the programme, the management system and audit cycles must be reviewed and validated by an external accredited EMAS verifier.

According to Council Regulation (EEC, No 1836/93 of 29 June 1993, Article 3) the EMAS process "... must include commitments aimed at reasonable continuous improvement of environmental performance, with a view to reducing environmental impacts to levels not exceeding those corresponding to economically viable application of best available technology". Implementation of the principle of continuous improvement to environmental performance is a key component of any environmental management system and the environmental benchmarking through which public opinion, bankers and lenders will judge performances of production, products and services.

The revised EMAS aims at creating more favourable conditions for SMEs to implement EMAS by aiming at the simplification of the administrative procedures. (Jirillo et al. 2003). EMAS uses ISO 14001 as its management system. All organisations, not only industrial ones, can be registered to EMAS. The main difference between ISO 14001 and EMAS is that EMAS demands an environmental declaration. The environmental declarations are intended to inform the public and they contain the policy, the program, the environmental management system and the conclusion of the environmental analysis.

After the launch of EMAS the number of registered industrial sites rose steadily to 3,912 in December 2001 (ENDS Daily 11/10/02) and after that steadily fell to 3,718 in June 2003 (EMAS, website 2003). The numbers of EMAS registrations in the Nordic countries (except Iceland) are presented in Table 2.2. The EMAS registrations have dropped to 3498 and the registrations are 124 in Denmark, 39 in Finland, 42 in Norway and 115 in Sweden per 9.2.2004 (EMAS website 2004).

Table 2.3. EMAS and ISO 14001 numbers September/June 2002 and annualised change from December 2001/January 2002. Sources: EMAS helpdesk for EMAS figures, Reinhard Peglau, German environment agency for ISO 14001 quoted in ENDS Daily 11/10/02.

	EMAS		ISO 14001	
	Number	Change %	Number	Change %
Denmark	137	-19 %	984	+7 %
Norway	64	0 %	304	+ 5 %
Finland	41	+14 %	688	+ 3 %
Sweden	212	0 %	2367	+ 14%

The Commission's recommendations (2003/532/EC) on guidance concerning the selection and use of environmental performance indicators were published in July 2003. In the introduction it is noted that environmental performance indicators "summarise extensive data to a limited number of significant key information sets". It is furthermore underlined that the indicators should be "cost-effective and appropriate to the size and type of organisation and its needs and priorities". The environmental performance indicators should address primarily those environmental impacts that are most significant. Useful examples of indicators and their presentation are given.

EMAS was planned as a stepping stone towards sustainability. First experiences showed that initiating such a scheme was difficult and the high aims were impossible to reach (Steger et al. 2002). The determining factor for success of EMAS is its positive impact on the environment. So far, the impact of EMAS in reducing environmental pollution has not been quantified in central statistics. The scheme does not set specific standards and goals but allows each organisation to define its own. (European Conference 2002)

BS 8555

Some initiatives have been taken to create an SME friendly approach to implementing an EMS and especially EMAS. A project financed by the LifeIII programme of the European Union has issued an EMAS II Tool-kit, an easy to use tool for the implementation of EMAS (Inem website 2004).

Project Acorn which is an initiative from BSI, the British Standards Institute, (www.bsi-global.com) and partners is a pilot programme to help SMEs improve their environmental performance. The project has launched the British standard BS 8555:2003 - *Environmental management systems - Guide to the phased implementation of an environmental management*

system including the use of environmental performance evaluation. The standard offers a six level approach to implementing ISO 14001 and EMAS with the recognition at each level (Gascoine 2002).

The standard was tested by SMEs in several European countries. The framework enables the companies to choose the pace of their environmental programmes, and the ways that they measure and monitor performance (Ends Daily 05/05/03). BS 8555 was published in April 2003 (Gelber 2004).

BS 8555 breaks down the implementation of an EMS into 5 discrete phases. The 6th phase prepares the company either for accredited certification of ISO 14001 or registration to EMAS. The phases are as follows (IEMA 2003):

- 1 Commitment and establishing the baseline.
- 2 Identifying and ensuring compliance with legal and other requirements.
- 3 Developing objectives, targets and programmes.
- 4 Implementation and operation of the environmental management system.
- 5 Checking, Audit and Review.
- 6 Environmental Management System Acknowledgement.

Each of the six levels is further subdivided into stages. For example Level 1 is subdivided into seven stages, which are as follows:

- Stage 1: Gaining and maintaining management commitment
- Stage 2: Baseline assessment
- Stage 3: Developing a draft environmental policy
- Stage 4: Developing environmental indicators
- Stage 5: Developing an initial EMS implementation plan
- Stage 6: Training, awareness and the initiation of culture change
- Stage 7: Initiation of continual improvement

A practical workbook has been designed to introduce Phase 1 of BS 8555 (IEMA 2003). The workbook gives guidance for every stage, with additional clear text boxes which answer the questions Why and How, present a Case Study, give Practical Examples, Top Tips references and a Checklist. This workbook is especially useful for SMEs.

2.3.3 ISO 14031 AND ISO 14063

ISO (International Organization for Standardization) is a world wide federation of national standardisation bodies (ISO member bodies). ISO 14000 is a group of standards covering the following areas (ISO 14000, website 2003):

- Environmental Management Systems (14001, 14002, 14004)
- Environmental Auditing and Related Investigations (14010, 14011, 14012)
- Environmental Performance Evaluation (14031)
- Environmental Labels and Declarations (14020, 14021, 14022, 14023, 14024, 14025)
- Life Cycle Assessment (14040, 14041, 14042, 14043)
- Terms and Definitions (14050)

The ISO 14001 standard "*Environmental management systems - Specification with guidance for use*" is the standard within the ISO 14000 series that specifies the requirements of an environmental management system. ISO 14001 is the only standard intended for registration by third parties. All the others are for guidance.

ISO 14031

ISO 14031, *Environmental Management – Environmental performance evaluation – Guidelines* (SFS-EN ISO 14031, 1999) deals with valuable guidelines that can be used for environmental reporting. ISO 14031 explains how to identify suitable environmental indicators for measuring performance against policies, objectives and targets. This international standard supports ISO 14001 and ISO 14004, but it may also be used independently.

Environmental performance evaluation (EPE) is the subject of ISO 14031. EPE is defined as follows:

Process to facilitate management decisions regarding an organisation's environmental performance by selecting indicators, collecting and analysing data, assessing information against environmental performance criteria, reporting and communicating, and periodic review and improvement process

The International Standard describes two general categories of indicators for EPE:

- Environmental performance indicators (EPIs); and
- Environmental condition indicators (ECIs).

There are two types of EPIs:

- Management performance indicators (MPIs) are a type of EPI that provide information about management efforts to influence the environmental performance of the organisation's operations.
- Operational performance indicators (OPIs) are a type of EPI that provide information about the environmental performance of the organisation's operations.

ECIs provide information about the condition of the environment. This information may help an organisation to better understand the impact or potential impact of its environmental aspects, and thus assists in the planning and implementation of EPE. The decisions and actions of an organisation's management are closely related to the performance of its operations.

It is worth noting that ISO 14031 does not establish environmental performance levels. It is not intended for use as a specification standard for certification or registration purposes or for the establishment of any other environmental management system conformance requirements.

Marshall and Brown (2003) discuss metrics in corporate environmental reports based on the environmental indicator schemes established by the European Environment Agency (EEA) and ISO. EEA classifies indicators as descriptive, efficiency and performance indicators. Marshall and Brown call performance indicators "target indicators". Descriptive indicators provide facts without the interpretation of the facts. They provide an absolute measure, but must be combined with some other information in order to be useful for evaluation and decision-making. Efficiency indicators (see also 2.2.5) provide a measure of how efficiently environmental resources are used. They provide comparative data from a period of time. Efficiency indicators include both a quantity of resource affected and a quantity of productive output generated by the resource. Performance "target" indicators include a desired state

target to contrast current performance or condition with a goal or objective. Marshall and Brown summarize their conclusions and note that ISO indicators measure environmental condition, managerial performance or operational performance. Descriptive EEA indicators measure any of the three or inputs or outputs from the organisation. Efficiency EEA indicators compare a productive output with managerial or operational inputs, outputs or processes. Target EEA indicators provide a goal for other measures.

ISO/TC 207/SC 4 decided early in the development of ISO 14031 that the standard should be broadly applicable to all organisations wishing to evaluate their environmental performance, whether or not they have established management systems (ISO Bulletin 2000). In addition ISO 14031 is written to be applicable to any environmental management system. The TC (Technical Committee) has also developed an ISO technical Report as a companion document to ISO 14031 with the understanding that many organisations would benefit from examples illustrating how environmental performance (EPE) has been applied by a variety of organisations. Two Nordic examples are included, that is Danish National Railway Agency, which is a national railway infrastructure company and Elkem Fiskaa (Norway) which is a silicon metal production facility. The title of the technical report ISO/TR 14032 (1999) is *Environmental management - examples of Environmental performance evaluation*.

In the case of smaller organisations, there is a reduced requirement for formal Environmental Management system elements to support an ISO 14031 system (O'Reilly et al 2000). Results from an ISO 14031 project in Germany show that "ISO 14031 is especially suitable for SMEs, because it can be carried out and maintained even with scarce personnel and financial resources" (Seifert 1999, quoted in O'Reilly et al 2000).

ISO 14063

ISO 14063 (ISO/CD 14063.2), *Environmental management - environmental communication - Guidelines and examples* is prepared by Technical committee ISO/TC 207, *Environmental management*, Working Group 4, *Environmental communication*. The document discussed below is a working draft dated 11.03.2004.

The draft standard gives guidance on environmental communication on a general level. It is applicable to all organisations regardless of their size, type, location, structure and product and/or services. It is also applicable to organisations both with and without an environmental management system in place. The standard is not intended for use as a specification standard for certification or registration purposes. The standard concerns all kinds of environmental information without paying special attention to environmental reports and notes that "Environmental communication is broader than environmental reporting" (p. v).

Jones (2000) notes on the basis of a survey of 88 companies, all of which issue environmental reports, that 81 % of the companies regard their environmental report as the main document or report that contains environmental information. As a comparison it can be mentioned that company press releases as environmental information yielded only 8 % and Internet 27 % (ibid).

The environmental communication process is described in Fig. 2.2.

The environmental communication process is part of the whole corporate communication process and the corporate environmental policy. The process starts by defining the environmental communication policy and strategy. Evaluation is underlined as an important part in the process. The process is continually improved.

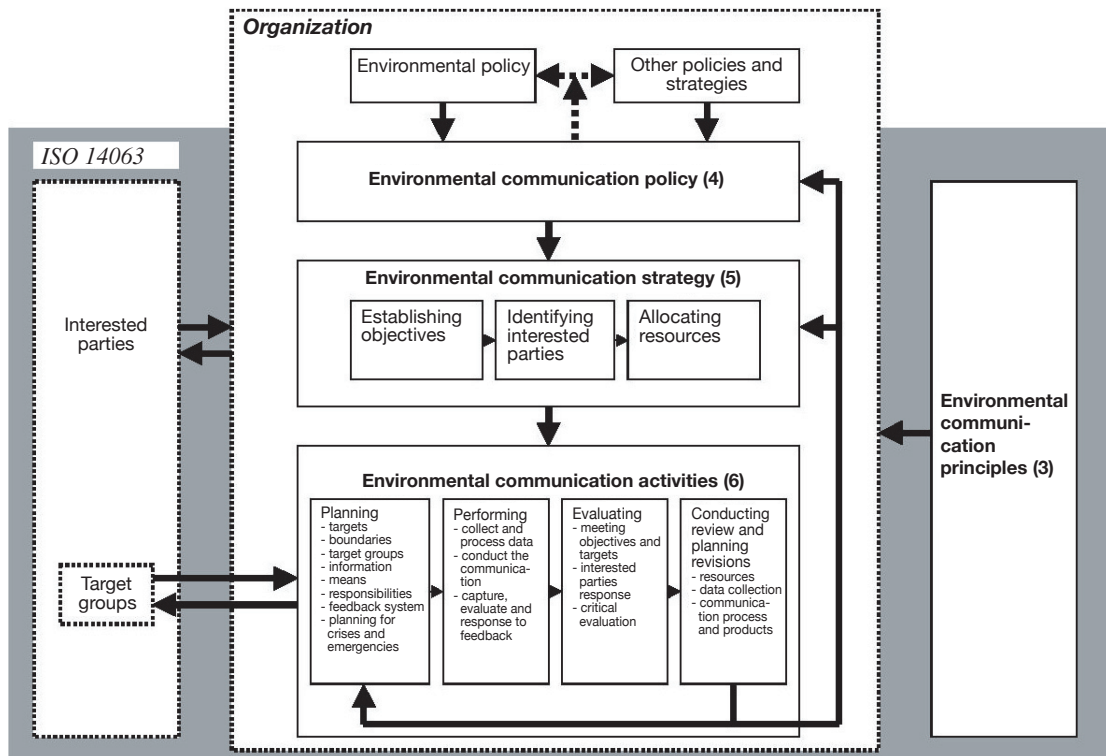


Fig. 2.2. Interrelationships and flow of the environmental communication process. Titles in bold and numbered refer to the chapters in the standard. Dotted lines indicate the organisation and interested parties and full lines indicate activities and results. (ISO/CD 14063.2, published with permission from SFS)

The standard outlines the principles of environmental communication as follows (p.1-2):

An organisation shall apply the following principles to its environmental communication

Transparency

The processes, procedures, methods, data sources, and assumptions used in the environmental communication shall be available to all participants. Interested parties shall be aware of their role in environmental communication.

Appropriateness

Information provided in environmental communication shall be relevant to interested parties, using formats, language and media that meets their interests and needs, enabling them to participate in an inclusive way. Information shall be relevant to and reflect the relative importance of the environmental issues.

Credibility

Information shall be provided in an honest and fair manner and be truthful, accurate, traceable, reproducible, substantive and not misleading to interested parties. Information and data shall be developed using recognised and reproducible methods and indicators.

Responsiveness

Environmental communication shall be sensitive to the needs of interested parties. The queries and concerns of interested parties shall be responded in a full and timely manner. Interested parties shall be made aware of how their queries and concerns have been dealt with.

Clarity

Environmental communication shall use understandable approaches and language to meet the needs of interested parties and to minimise ambiguity.

Chapter 6.2.5 "Describing environmental communication approaches and tools" provides a table on written and verbal communication tools and other approaches. For every technique description, strengths, weaknesses and "keep in mind" are presented. For "Environmental or sustainability reports" (p. 11) the following is noted:

Description: Comprehensive presentation of commitment and performance on a number of key issues. Extracts or summaries of these reports can be included in other communication of the organisation, e.g. financial reports.

Strengths: Opportunity to address multiple issues in depth.

Weaknesses: Hard work to produce and can be difficult to update (often annual). May provide information in a form that does not permit comparison with similar organisations.

Keep in Mind: Address external and internal interested parties' interests. Include difficulties and failures as well as successes.

It is worth noting that the standard draft without further explanations here uses the term "sustainability reports". In the introduction it talks only about "environmental reports".

The standard provides useful information for those who prepare environmental reports. It goes systematically through important stages in the process and starts with the environmental communication policy and goes on with strategy, objectives, identifying interested parties, considering resources and ends with a comprehensive chapter on environmental communication activities.

2.3.4 THE GLOBAL REPORTING INITIATIVE, GRI

The Global Reporting Initiative (GRI) was established in 1997 by Coalition for Environmentally Responsible Economies (CERES), in partnership with United Nations Environment Programme (UNEP). The initiative incorporated the participation of NGOs (Non Governmental Organisations), consultants, business associations, corporations, universities, and other stakeholders round the world (GRI 2000). The mission was to design a common framework of globally applicable guidelines for preparing enterprise-level sustainability reports (GRI, website 2002). More than 140 companies worldwide have used the GRI guidelines (GRI, website 2003) including the Finnish companies Kesko, Metso, Nokia and Wärttilä and the Swedish Volvo Car Corporation as well as ESAB discussed in this report (see Section 4.4).

The guidelines were first presented as an Exposure Draft for comment and pilot testing and this document was GRI's first major product (GRI 1999). The work has gone on and the GRI guidelines have assumed a dominant position in the environmental reporting arena. Revised guidelines were issued in June 2000 and in August 2002 the *2002 Sustainability Reporting Guidelines* (GRI 2002) were released. The 2002 version of the Guidelines is the result of two years of testing and revision (GRI, Press release 2002).

The Guidelines (GRI 2002) document is structured in five parts. The introduction includes trends driving sustainability reporting and the benefits of reporting. Part A *Using the GRI*

Guidelines presents general guidance on the use of the Guidelines. Part B *Reporting Principles* addresses principles and practices that promote rigorous reporting and underlie the application of the Guidelines. Part C *Report Content* includes content and compilation of a report and Part D *Glossary and Annexes* presents additional guidance and resources for using the Guidelines.

Part C covers basic report contents as defined by GRI and comprises five sections as follows:

1. *Vision and Strategy* - description of the reporting organisation's strategy with regard to sustainability, including a statement from the CEO.
2. *Profile* - overview of the reporting organisation's structure and operations and of the scope of the report.
3. *Governance Structure and Management Systems* - description of organisational structure, policies and management systems, including stakeholder engagement efforts.
4. *GRI Content Index* - a table supplied by the reporting organisation identifying where the information listed in Part C of the Guidelines is located within the organisation's report.
5. *Performance Indicators* - measures of the impact or effect of the reporting organisation divided into integrated, economic, environmental and social performance indicators.

The Guidelines attempt to balance flexibility within an overall uniform structure. Each reporting entity is unique and sustainability reporting is best performed in accordance with certain common elements. Indicators of interest to most reporting organisations and stakeholders are classed as "core". "Additional" indicators are of interest to specific companies and stakeholders. An "in accordance" document must report on each of the listed core performance indicators or explain the reason for their absence.

The indicators are ordered separately under the three pillars of sustainability. The GRI's Sustainability Reporting Guidelines encompass the three linked elements of sustainability as they apply to an organisation:

- **Economic:** Including, for example, wages and benefits, labour productivity, job creation, expenditure on outsourcing, expenditure on research and development, and investments in training and other forms of human capital. The economic element includes, but is not limited to, financial information.
- **Environmental:** Including, for example, impacts of processes, products and services on air, water, land, biodiversity, and human health.
- **Social:** Including, for example, workplace health and safety, employee retention, labour rights, human rights, wages and working conditions at outsourced operations.

The environmental dimension of sustainability has achieved the highest level of consensus among the three dimensions of sustainability reporting presented in the guidelines. It is underlined that it is particularly important to provide environmental performance information in terms of both absolute figures and normalised measures (e.g. resource use per unit of output). Absolute figures provide a sense of scale or magnitude of the use or impact, which allows the user to consider performance in the context of larger systems. Normalised figures illustrate the organisation's efficiency and support comparison between organisations of different sizes. Detailed and informative examples are presented on how to report on both qualitative and quantitative indicators e.g. on reporting absolute figures or ratios.

Andrews and Slater (2002) interviewed a number of energy utilities regarding their experiences using the GRI guidelines. Though the energy utilities had striven to address all aspects of the Guidelines, they stressed that their reports are much stronger in the environmental section than in the newer social and economic ones. This was in line with GRI's own feedback from two dozen companies that have published sustainability reports based on the Guidelines. The reports covered most of the environmental indicators but less than half of the economic or social ones.

The guidelines underline that smaller organisations may choose to adopt an incremental approach to implementing the Guidelines. Furthermore GRI welcomes efforts to develop tools to help smaller organisations begin using the Guidelines. The aim is to assist smaller organisations to gradually move towards more comprehensive reporting (GRI 2002). GRI is developing supplementary documents e.g. sector supplements and documents on indicator measurement for use with the core Guidelines.

In December 2002 CERES (2002) issued *CERES reporting requirements for small enterprises and non-profit organisations*. These guidelines are intended for use by companies with fewer than 100 employees and especially address the concerns of those new to environmental or sustainability reporting. The report asks the companies to provide performance data not only for the current year but also for at least two previous years. The reader can thus get a sense of whether or not performance is improving over time. Normalisation is explained as "a technique used to present information with respect to the level of activity within an organisation (e.g. energy use *per* unit of product produced or *per* employee)." Normalized data facilitates an understanding of the efficiency of the operations. Absolute data gives information on an organisation's overall impact. The guidelines are only twelve pages and made easy to use. Practical tables are provided e.g. on energy use. See Table 2.3.

Table 2.3. The organisation's absolute and normalized energy use data (CERES 2002)

Energy (kWh)	Base year	1999	2000	2001	Target
Electricity					
Fuel oil					
Natural gas					
Renewable power (on or off site)					
Other (specify)					
Total					
Normalized consumption					

In spite of the guidelines for SMEs the Global Reporting organisation notes (GRI website 2004) that GRI reporting by smaller companies is still rare. GRI analyses the problem and comments that feedback from SMEs shows that there are some barriers to reporting, including:

- The Guidelines are not in a format that optimises their use by SMEs
- Many SMEs remain unaware of sustainability reporting and the associated benefits such as strengthening their position in the supply chain
- Those attempting to report for the first time find the Guidelines daunting and need a "beginners guide".

An editorial committee contributing to the development of a handbook to help SMEs use the GRI Guidelines started its work in June 2004. The committee consists of SMEs with various experiences with reporting (new and mature), multinational companies that have experience in GRI reporting and that also have SME suppliers and other key stakeholders and information seekers. This work will lead to a GRI 'SME Handbook on Sustainability reporting'. The SME Handbook will be launched in November 2004.

Hedberg and Malmberg (2003) analysed sustainability reporting in Swedish companies and they note that the GRI guidelines "are just a guide, there are no concrete demands, only recommendations". They also came to the conclusion that the comparability of the reports suffers since the companies can choose the level of reporting that suits the level of the companies' ambitions. "This we believe gives a lack of credibility of the GRI and maybe it could affect the company's credibility in the long run as well". Hedberg and Malmberg ask for a verification system by GRI and clearer definitions on how to use the guidelines and conclude "In all, the lack of possibility to provide verified and comparable reports would certainly be a key issue to solve if GRI is going to be a guideline that reduces the criticism of voluntary corporate reporting as being biased and self-laudatory."(p.163)

2.3.5 SOCIAL ACCOUNTABILITY, SA8000

In 1996, Social Accountability International (SAI) convened an international multi-stakeholder Advisory Board to develop Social Accountability 8000 (SA8000). SA8000 is a voluntary standard for workplaces based on ILO (International Labour Organization) and related international human rights instruments - including the Universal Declaration of Human Rights and the UN Convention on the Rights of the Child (SAI, website 2003a).

SA8000 is for universal application, regardless of company size, industry sector or geographic location. The standard is designed for independent third party certification and it is therefore site-based and focuses on issues which an organisation can control or influence. Certification is the process by which companies submit to an independent audit against a set of standards. The standard and its verification system are modelled on ISO 9000 and ISO 14000. SA8000 represents a major breakthrough as it is the first auditable social standard.

The standard (SAI 2001) specifies requirements for social accountability to enable a company to:

- a) develop, maintain, and enforce policies and procedures in order to manage those issues which it can control or influence
- b) demonstrate to interested parties that policies, procedures and practices are in conformity with the requirements of this standard

The standard consists of 8 pages and is built up like official e.g. EN and ISO standards starting with scope and definitions.

Social accountability requirements measure the performance of companies in the eight key areas:

- 1 Child Labour
- 2 Forced Labour
- 3 Health and Safety
- 4 Freedom of Association & Right to Collective Bargaining
- 5 Discrimination

- 6 Disciplinary Practices
- 7 Working Hours
- 8 Remuneration

The last chapter of the standard focuses on a social accountability management system which stipulates the mechanisms for ensuring and demonstrating ongoing conformance with the standard. The company shall also maintain procedures to communicate regularly to all interested parties on performance against the requirements (Chapter 9.12). This includes a provision for a degree of public disclosure e.g. in an environmental report.

SAI has produced three major documents to support its work: the SA8000 Standard, the Guidance Document, and the Application Package. The Guidance Document goes through the elements of the standard and interprets them according to the original intent of the SAI Advisory Board that drafted SA8000. The group reviews and approves text and revisions of the Guidance Document. The Guidance Document serves as an implementation guide for the companies interested in adopting the SA8000 system. The application package is used when an auditing body wants to become SA8000 accredited, so that they may audit companies, factories, and other businesses against the SA8000 standard.

Jackson and Bundgård (2002) discuss social standards and note that existing standards mainly focus on the processes of reporting and verification and state that less has been written about how the data used in the reports are generated. As of 15 July 2003, 258 facilities were certified to SA8000 (SAI, website 2003b).

2.3.6 SOME REPORTING FRAMEWORKS

In recent years many reporting initiatives, codes and guidelines have emerged. Several organisations have issued environmental reporting guidelines. The guidelines are useful especially for reporting beginners, providing advice and ideas for the reporting process. The guidelines are mostly downloadable from Internet, and thus easy to access. See Appendix 8. They focus on the most essential issues and are clearly and systematically written. This chapter gives three examples of environmental reporting guidelines and one on an environmental management system which includes an environmental reporting template. The frameworks can be used as complements to more comprehensive guidelines like those issued by GRI.

2.3.6.1 GUIDELINES BY WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT

In December 2002, the World Business Council for Sustainable Development (WBCSD) issued a report (Heemskerck et al. 2002) based on a project aimed at providing member companies with guidance on why, how and what to report on. Companies should not only show the value of mitigating risks, but also show the positive influence of profitability. The report provides guidance on how to report complementing other initiatives. The reader is provided with several basic questions with useful comments. Small examples from the member companies' reports are given. The report is intended to be used by initiated and uninitiated reporters and is thus applicable to beginners.

The authors outline observations and thoughts on the key aspects of a reporting framework, and provide ideas on how to further develop the frameworks. The report comprises the following main steps:

- Building the commitment
- Selecting the approach
- Management process
- Reporting process

The following parts build up the reporting process:

- Defining the reporting objectives
- Planning the report
- Constructing the report
- Distributing the report
- Collecting and analysing feedback

Leading companies will be expected to be one step ahead on current issues and thus the last chapter addresses future trends. The WBCSD expects that companies will have to develop better indicators to account for and report on the value created by their achievements. The future is likely to bring more harmonized sustainability reporting requirements and there is an increasing demand for third party assurance of reported information. It is likely that companies will increasingly report across the value chain. This will represent a new challenge in terms of reporting on the upstream (supplier related) issues linked to human rights, environmental and social impacts, and also reporting on downstream (consumer related) impact of products and services. The future will bring more reports which look forward, with information on a company's business models, its ability to meet targets, perform research and development, and respond to market trends. Companies will be expected to report more on macro issues and take positions on policy issues such as terrorism, public services and consumption.

WBCSD launched a "reporting portal" on their website (2003) in late 2002. It offers examples on how members of WBCSD are reporting. Much of the contents is based on interviews with report producers at member companies.

2.3.6.2 GUIDELINES BY UK DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS, DEFRA

A practical report is launched by the UK department for Environment, Food and Rural Affairs, DEFRA (2001). The guidelines aim to help in providing and introducing environmental reporting. They explain how to produce an environmental report, outline its main contents and suggest key indicators to report against. The guidelines concentrate on environmental components but encourage organisations to consider the social and economic impacts as well. The guidelines are particularly aimed at organisations new to reporting.

The reporting process is described as follows:

- Identify your audience
- Review and identify your main environmental impacts
- Prepare an environmental policy
- Consider what to include in a report - an incremental approach
- Consider how to report

- Consider assurance arrangements

Contents of an environmental report are identified as follows:

- CEO statement
- Environmental policy
- Profile of your organisation
- Description of management systems
- Key environmental impacts
- Environmental performance indicators
- Targets for improvement/process against targets
- Legal compliance

The report identifies greenhouse gas emissions, waste and water use as basic environmental performance indicators that all organisations should aim to report on. Internet links to detailed guidelines on how to measure, monitor and report on these basic indicators are provided.

2.3.6.3 GUIDELINES BY THE EUROPEAN ACCOUNTANCY ASSOCIATION

The European accountancy association, FEE (2002, Fédération des Experts Comptables Européens) has launched a consultation on how to create standards for third-party verification of corporate sustainability reports. The report does not provide a recipe on how to report but discusses the reporting framework from the standpoint of assurance. In the foreword Göran Tidström the President of FEE says "As an essential part of the reporting process, it is vital that preparers, stakeholders and other users are fully aware of the issues surrounding assurance provision."

The accountancy approach to assurance makes references to the need for the subject matter of an assurance engagement to be evaluated or measured against appropriate standards benchmarks. These are referred to as criteria. The characteristics for determining whether criteria are suitable are as follows:

- Relevance
- Reliability
- Neutrality
- Understandability
- Completeness

The environmental dimension may be the most important to a company and the assurance provider will also face the most severe purely technical problems in understanding the scientific complexity of certain environmental measurements and disclosures. The social dimension has less developed management systems than the environmental dimension, so the assurance provider will generally not be able to place as much reliance on social management systems. Similar actions of a company may produce dissimilar impacts in different local environments. "This consideration limits the value of certain analytical procedures and introduces considerable doubt about the value of benchmarking against the policies and performance of other organisations".

2.3.6.4 THE ECO-LIGHTHOUSE PROGRAM

The Eco-Lighthouse Program is a tailor-made program for environmental certification of small and medium-sized companies and public administration in Norway. (Eco-lighthouse, website 2004). The Eco-Lighthouse project is meant to help companies to start their environmental work and it is a first step towards EMAS or ISO 14001 certification. The project started in 1996. In 2003 a project in the Baltic region started and a Nordic EMS network was established. There are 585 certified companies (Lund 2004).

All types of businesses in industry, transportation, trade and commerce can use the program. The main strategy is to systematically develop industry-specific criteria for certification. This also allows the Program to use the trade unions' experience and "advertise" certified companies within the industry. A national board with seven representatives oversees the program, approves industry criteria and reports to the Norwegian Ministry of Environment.

Industry criteria are developed in co-operation with selected companies (the so-called number 1 companies). Proposals are sent to trade organisations for comments before being sent to the National Eco-Lighthouse Office and the National Board for approval.

When entering the Eco-Lighthouse Program the management at each company establishes a working group consisting of key persons and employees with a special interest in environmental issues. The group may be made up of three to five persons in addition to the consultant who acts as secretary.

The environmental group selects subjects for the environmental analysis. Common subjects include:

- work environment
- waste reduction
- waste treatment / sorting
- materials use / consumption - demands on suppliers
- energy consumption
- water consumption
- internal information
- transportation

The environmental group works out a plan of action to fulfil industry requirements for certification. The plan of action includes measures to be carried out over a three-year period. Each company prioritises on an individual basis. Experience shows that investments easily pay for themselves. Strategies that produce quick results are emphasised. The analysis period normally takes about half a year in pioneer companies and between three to six months with an experienced consultant. Every company reports annually on its environmental status and presents a plan of action for the coming year. The report, not to be confused with the environmental report that is issued during the environmental analysis, is a documentation of the physical environmental data from the last year, and should provide information on the company's work on health, environment and safety issues. Measurable indicators are available. Along with the report the company presents a plan of action for the same year thus ensuring continuity and constant updating of the existing plan of action. The Template for an environmental report is presented in Appendix 7 A. In Appendix 7 B an example of a checklist is presented. This checklist (in Norwegian) concerns the company's energy use.

2.4 DISCUSSION AND CONCLUSIONS

Terminology

Environmental reports can be defined as "publicly available publications in which a firm gives an account of its environmental or environmentally related activities and 'results' in a specified period of time, usually a year" (Kolk 2000, p. 130). All companies do not produce plain environmental reports but want to introduce reporting on social and economic issues as well. Environmental, social and economic aspects are all included in the concept of sustainable development. The sustainability concept is reflected in corresponding concepts like that of the Triple Bottom Line (Elkington 1997) and Corporate Social Responsibility. Similar important aspects are underlined by industry. The concept of Health, Safety and Environment is thus highlighted by the chemical industry (CEFIC 2002).

Problems arise when companies want to underline different aspects in the environmental report. A number of companies have thus issued reports with the word "sustainable" or some deviation from it in the title, but many of these focus largely on environmental, health and safety issues and conversely others deal with the environmental social and economic issues but do not term the reports "sustainability reports" (Bennet and James 1999).

Gray (2000) notes that the significant growth in environmental and social auditing and reporting has been "accompanied by a similar growth in confusion over terminology..." (p. 247). Commonly used terms, besides Environmental reports, are e.g. Social reports, Sustainability reports and Corporate Social Responsibility reports. Firms like to stress the numerous definitions of sustainable development that are proposed, which means that sustainable development or sustainability can be defined to "mean anything and to justify any behaviour" (Atkinson 2000). One of the great challenges in the environmental reporting area is therefore to define the different terms and to create a standardised terminology which avoids too many varieties.

The concept of sustainability is defined as the process of meeting the needs of the present generation without compromising the ability of future generations to meet their own needs (UNWCED 1987, SFS-ISO 14050). Sustainability reports are usually understood as reports which address the three pillars of sustainability: environmental, social and economic issues (Stratos 2001). There seems to be an agreement on the definition but on the other hand there seems also to be confusion on what the term really means on a practical corporate level. Many authors have contributed to the discussion and e.g. Korhonen (2003) concludes that sustainability is "impossible to define and very difficult to measure" (p. 37). Keeble et al (2003) explain that the difficulty in measuring sustainability performance is further complicated by the fact that many firms have a complex organisational structure. Bebbington and Gray (2001) state that it is a genuinely dangerous attempt to reduce "a concept as rich and diverse as sustainability sufficiently to fit within a straightjacket of accounting" (p. 558). The corporate aspect is further complicated by the fact that sustainable development encompasses "both voluntary and non-voluntary approaches and involves actions and policies that can only be taken by governments or intergovernmental organisations." (ISO 2004, p. 25). If this statement is true it indicates that the concept of sustainability is too broad for covering a company's activity and could therefore not be used as a term for describing a company's performance in the environmental, social and economic area.

Corporate Social Responsibility (CSR) can be understood as the business contribution to sustainable development and can be seen as an integral part of the sustainable development concept (Isusi 2002). One could thus talk about CSR Reporting but here we face similar problems as with the sustainability concept. In its Green Paper on CSR (COM(2001) 366) the

European Commission establishes that there is no commonly accepted definition of corporate social responsibility. Consequently we also face the measurement problem (Carroll 1999).

The ISO working group on CSR (ISO 2004) concludes that while the term "corporate social responsibility" is widely used other terms are also used including "corporate responsibility", "corporate citizenship", "corporate integrity", "organizational responsibility" and "social responsibility". All these terms put a slightly different emphasis on one or the other aspects of CSR. Van Marrewijk (2003) also emphasises the problem that many concepts and definitions have been proposed. He concludes that the current definitions are often biased towards specific interests and underlines that a clear and unbiased definition and concept of CSR will be needed to lay a strong foundation for future work in the area.

We clearly have two lines here concerning the terminology of environmental reporting. One represents the term "environment" which is associated with well known vocabulary of environmental management systems (EMAS and ISO 14001). The ISO 14000 standards are based on the environmental concept. Most of the environmental indicators are scientifically defined and they can be measured on the basis of accepted methods and standards. The concept of environmental reporting is recognised by a non-specialist audience. This indicates that "environmental reporting" is a solid term that could be recommended.

On the other hand there seems to be a political demand for including sustainability aspects in corporate activities and there is a very clear trend towards reporting that places more emphasis on social responsibility (Line et al 2002). According to that logic, reports including all the three aspects of sustainability, that is reports that include environmental, social and economic issues, should be termed "sustainability report". Environmental reports thus only deal with purely environmental issues. It is important to underline that sustainability is more than a new word for the environment (Bebbington and Gray 2001). This view is adopted by e.g. the GRI reporting guidelines and environmental reporting contest panels and thus the sustainability term has gained ground in the reporting arena.

The weakness in the suggested term "sustainability report" is that sustainability aspects are usually difficult to define and measure and the concept is not very well known by interested parties. One of the great questions is how the concept of sustainability is compatible with the well known environmental management systems, the environmental terminology and already existing standards.

What should we call the reports? If a report only includes environmental issues, then the report obviously is an environmental report and the company can relate to e.g. the ISO 14000 series concerning EMS, environmental communication and indicators. But what if the report also includes social and economic aspects? "Environmental report" could also be used for reports including all sustainability aspects if the broad meaning of the environment is considered. The environment concept can also relate to e.g. the business environment and the environment where we live. Thus social aspects which are environmentally related can be included in the concept of the environment. By definition, environmental reports also include "environmentally related activities" (Kolk 2000).

This thesis uses the term Environmental report including all the three aspects of sustainability. On the other hand the term "Sustainability report" is also used mainly in connection with references to authors who talk about sustainability reports. Consequently the term Environmental report in a study report can only be used if the referred authors see environmental and sustainability reports as synonyms, which most of them do not.

A commonly agreed environmental reporting framework

A lot of work is done in the environmental reporting area. Over the past decade many organisations have contributed to the development of a commonly accepted framework and issued over thirty standards (MacLean and Gottfrid 2000). This study identifies some of the main initiatives and gives examples of additional usable reporting frameworks.

Commonly accepted environmental management systems are EMAS and ISO 14001. EMAS expects companies to give a periodic statement (declaration) about their performance during the previous period and thus includes a reporting ingredient which ISO 14001 does not. After the launch of EMAS the number of registered sites rose but after December 2001 the number has been steadily falling (EMAS, website 2003) though EMAS is renewed to include non-industrial sites and to incorporate the ISO 14001 procedure. The ratio between ISO certification and EMAS recordings is two to one. Two of the reasons identified for the popularity of ISO are the universality of ISO and "feeling that new certificates with ISO 14001 would be easier than joining EMAS" (Jirillo et al. 2003, p. 42). EMAS is felt to be complicated and its popularity is declining.

The ISO 14000 series provides useful standards for the reporting process. ISO 14031 deals with environmental performance evaluation and discusses environmental performance indicators. The ISO 14063 draft gives valuable tools for the environmental communication process by e.g. outlining principles for environmental communication. No official ISO standards on environmental reporting exist. The ISO Advisory Group on Social Responsibility was founded in 2002 and the group has issued its *Working Report on Social Responsibility* (ISO 2004) where the need for ISO deliverables in the field of corporate social responsibility is discussed.

A great number of organisations like UNEP (the United Nations Environment Programme), WBCSD (the World Business Council for Sustainable Development), GRI (the Global Reporting Initiative), accountant organisations and governmental bodies have also contributed to the process of developing common frameworks for environmental reporting. The Global Reporting Initiative is in the front line and in August 2002 the third revised version of the guidelines was published. Over 300 firms have issued sustainability reports drawing on guidelines created by GRI, and GRI says it is aiming to double this number to 600 by 2005 (ENDS Daily 11/09/03). The guidelines are comprehensive and informative and serve as a useful handbook for reporters, but could GRI form the new official standard in the area?

GRI faces some challenges. Firstly one can identify a challenge concerning terminology, which has to be defined. Talking about "Sustainability Reporting Guidelines" without a common understanding about sustainability is confusing for interested parties. Secondly GRI has had difficulties involving SMEs in GRI reporting (GRI website 2004). GRI notes that the Guidelines are not in a format that optimises their use by SMEs and that SMEs attempting to report for the first time find the Guidelines daunting and need a "beginners guide". GRI intends at the end of 2004 to launch a handbook to help SMEs use the GRI Guidelines. The outcome of this work will most probably influence development of an environmental reporting framework.

Some challenges are further expressed by Hedberg and Malmborg (2003) who note that the GRI guidelines "are just a guide, there are no concrete demands, only recommendations" (p.163). They conclude that the comparability of the reports suffers since the companies can choose the level of reporting that suits the level of the companies' ambitions. They ask for a verification system and clearer definitions on how to use the guidelines. GRI recommends reporting against specific indicators but it does not set substantive performance expectations (ISO 2004).

Apart from these main initiatives there are numerous others. See Appendix 8. All initiatives have brought valuable information to the process of streamlining environmental reporting. A few of the ideas brought up by the various initiatives are summarised in Table 2.4 These initiatives give ideas and input to a reporting framework.

Table 2.4. Some views and recommendations on environmental reporting presented by key players in the reporting arena. (FEE = The European accountancy association, DEFRA = UK department for Environment, Food and Rural Affairs, SA8000 = Social Accountability 8000)		
Reporting principles	Relevance, Reliability, Neutrality, Understandability, Completeness	FEE
	Transparency, Inclusiveness, Auditability, Completeness, Relevance, Sustainability context, Accuracy, Neutrality, Comparability, Clarity, Timeliness	GRI
	Transparency, Appropriateness, Credibility Responsiveness, Clarity	ISO 14063 (Draft)
The reporting process	- Defining the reporting objectives - Planning the report - Constructing the report - Distributing the report - Collecting and analysing feedback	WBCSD
	- Identify your audience - Review and identify your main environmental impacts - Prepare an environmental policy - Consider what to include in a report - An incremental approach - Consider how to report - Consider assurance arrangements	DEFRA
Contents of the report	- Management policies and systems - An input/output inventory of environmental impacts of production processes and products - The financial implications of environmental actions - Relationships with environmental stakeholders - The sustainable development agenda	UNEP
	- Vision and Strategy, Profile - Governance Structure and Management Systems - Performance Indicators	GRI
	- CEO statement - Environmental policy - Profile of your organisation - Description of management systems - Key environmental impacts - Environmental performance indicators - Targets for improvement/process against targets - Legal compliance	DEFRA
Main environmental and social indicators	Criteria for indicators: - Scientifically supportable - Environmentally relevant - Accurate - Useful for all kinds of businesses around the globe	WBCSD

	<ul style="list-style-type: none"> - Materials use and trends - Energy use and trends - Water consumption and trends - Health and safety - Environmental accidents - Major waste streams - Air emissions - Water effluents - Product impacts during use 	UNEP
	<ul style="list-style-type: none"> - Greenhouse gas emissions - Waste and water 	DEFRA
	<ul style="list-style-type: none"> - Child Labour - Forced Labour - Health and safety - Freedom of Association & Right to Collective Bargaining - Discrimination - Disciplinary Practices - Working Hours - Remuneration 	SA8000
	<ul style="list-style-type: none"> - Work environment - Waste reduction - Waste treatment / sorting - Materials use /consumption - demands on suppliers - Energy consumption - Water consumption - Internal information - Transportation 	Eco-Lighthouse

The great variety of reporting guidelines leads to a great variety in environmental reports. One of the challenges faced in the environmental reporting area is the persistent lack of consensus on what and how to report. This raises concern about the content and quality of the reports (Marshall and Brown 2003). Reporting standards would especially benefit stakeholders by making the reports more consistent and comparable (Nygqvist 2001, Beets and Souther 1999).

The special case of SMEs in relation to e.g. the guidelines of UNEP, EMAS, ISO 14001 and GRI has been raised but for the time being none of those organisations have succeeded in developing usable frameworks for SMEs. Two environmental management system (EMS) initiatives, which can serve as useful inputs to an environmental reporting framework, consider the special needs of SMEs. One is the British standard BS 8555 which provides a staged approach to implementing the EMS. BS 8555 breaks down the implementation of an EMS into 5 phases. The 6th phase prepares the company either for accredited certification of ISO 14001 or registration to EMAS. A practical workbook has been designed to introduce Phase 1 of BS 8555 (IEMA 2003).

The other EMS initiative is the Eco-Lighthouse Program which is a tailor-made program for environmental certification of SMEs and public administration in Norway. (Eco-lighthouse, website 2004). The Eco-Lighthouse project is meant to help companies to start their environmental work and it is a first step towards EMAS or ISO 14001 certification. Measurable indicators and a template for an environmental report (Appendix 7 A) are available. The award of 593 Eco-Lighthouse certificates as of the 8 March 2004 shows that this system is rather successful.

Some clear inputs to the commonly accepted framework for environmental reporting have thus been identified. Without co-ordination there is a significant danger of divergence in

environmental reporting. One organisation should thus be given the mandate of co-ordinating existing work in the reporting area. Duplication of work should be avoided. The next question is in what context the environmental reporting framework should be worked out. Should it be an officially recognised standard e.g. in the EN or ISO series?

Some benefits of a Social Responsibility standard are identified by the ISO Advisory Group on Social Responsibility (ISO 2004). The benefits would result from any kind of standardisation and thus concern also a standard for environmental reporting. Standards for environmental reporting would thus provide:

- a common understanding of which issues are important to society
- accepted guidance on common processes for developing and implementing environmental reports
- a common understanding of performance indicators so that organisations and their stakeholders can judge the environmental programme of the organisation.
- guidance on acceptable methods for reporting environmental aspects, impacts and activities

The Advisory group also identified some costs specific to Social Responsibility standards which also are relevant to environmental reporting standards. Some of the costs indicate that an environmental reporting standard could:

- squeeze out existing initiatives that are better suited to specific countries, issues or sectors
- mislead organisations and interested parties by implying that compliance with an internationally agreed minimum is enough
- overlap with and weaken national legislation

To this list could be added the fact that the standardisation process is very slow while the environmental reporting area is developing rather fast. For CEN, in 2002, the average period for developing standards was slightly over six years (COM 2003). A new standard could thus be old before it is born.

The use of standards is in principle on a voluntary basis but if one claims to work according to a standard the normative text must be followed strictly. If a national government or the European Commission refers to standards, the use of those standards is no longer voluntary (van der Sloot et. al 1997).

According to the Council resolution (1999) on the role of standardisation one of the principles of standardisation is "standards should be fit for purpose, have a high degree of acceptability as a result of the full involvement of all relevant interested parties in the standardisation process, be coherent with each other and allow for technical innovation and competition; that therefore they should be based on sound scientific research, be updated regularly, and be performance-based where possible".

The standardisation process is being organised and the standards are published by national standardisation institutes. Furthermore standards are based on openness and transparency within the independent standardisation organisation. All interested parties are invited into the process. They can thus take part in Technical Committees which draft standards based on the principle of consensus.

This should guarantee unbiased work, but participation in standardisation work is very expensive. National standardisation committees are open for all interested parties and in that respect democratic but an annual fee is charged and travelling costs and working hours are paid by the participating organisation. This unfortunately leads to the fact that not all interested parties can invest in standardisation work due to lack of resources. Is the

standardisation work biased in favour of large companies and representatives from rich countries? To avoid this, funds should be granted for participation by SMEs, NGOs, developing countries etc. If this can be done so that there is full democratic participation by all interested parties in the standardisation process the facts discussed above suggest a standard. The benefits from a standard are stronger than the weaknesses.

Conclusions

The literature review identifies a need for a commonly accepted framework for corporate environmental reporting and the findings suggest that the framework should mainly include reporting on environmental issues but also include reporting on social and economic ones. This leads to the need that the framework should pay special attention to terminology.

In the absence of a common agreement on what the corporate dimension of sustainability really means the suggestion is thus that the term sustainability and corresponding terms should be sparingly used. For describing a corporate report the sustainability terms could be used in combination with the term Environmental Report e.g. "Environmental Report - Social aspects included" or "Environmental Report - Health and safety aspects included". This description of the report could have a standardised place on the cover page of the report e.g. as a header leaving space for more explanatory headings. Thus exactness could be combined with flexibility.

The findings in the literature review strongly suggest that studies and discussions concerning a standardised terminology for environmental reporting should continue.

The international standardisation organisation ISO decided at its senior ISO management meeting in June 2004 to develop an international standard for social responsibility. The outcome of the ISO work is of crucial importance for the terminology of environmental reporting. New views will most probably be presented. The dimensions of corporate social responsibility will be highlighted through this standardisation work and the need of reporting on social issues will grow in the near future.

The suggested environmental reporting framework should be compatible with the ISO 14000 series, Health, Safety and Environment (HSE) standards and also consider the work carried out by GRI.

As regards the special needs of SMEs the framework should provide a staged reporting approach according to views presented in the environmental management systems BS 8555 and the Eco-Lighthouse.

The framework should be performance-oriented and not only process-oriented, providing information on indicators and measurement tools (or where to find needed information).

The findings also suggest that the commonly accepted framework should be an official standard.

3 ENVIRONMENTAL REPORTING PRACTICES AND VIEWS IN FINNISH SMALL AND MEDIUM SIZED ENTERPRISES

3.1 INTRODUCTION

The aim of the first part of the empirical study was to find practices and views concerning environmental reporting in Finnish companies. The views should serve as input to the preparation of a commonly accepted framework for environmental reporting. The questions of interest were: Is there a need for a commonly accepted framework and guidelines concerning environmental reporting. If so, what should the framework include? What are the needs of small and medium sized enterprises (SMEs) concerning the framework?

The study was limited to smaller Finnish companies. A questionnaire was sent to a selected number of Finnish companies mostly representing SMEs. The companies were requested to answer a number of questions concerning environmental reporting. Furthermore the companies were invited to express their wishes concerning reporting guidelines.

A literature study on barriers, drivers and suggestions for implementing environmental management systems and for environmental reporting by SMEs was performed. The purpose of this study was to get a background and to see whether the findings in the literature correspond to the findings concerning the studied Finnish companies most of which are SMEs.

Small and medium-sized enterprises (SMEs) are defined according to the Commission Recommendation 2003/361/EC as follows:

1. The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million
2. Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million
3. Within the SME category, a microenterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet does not exceed EUR 2 million.

This Commission recommendation will replace Recommendation 96/280/EC as from 1 January 2005. The abbreviation SME therefore primarily refers to small and medium-sized enterprises. The earlier recommendation, the Commission Recommendation 96/280/EC, also sees SMEs as companies that have less than 250 employees (and turnover smaller than 40 M Euros or balance sheet smaller than 27 M Euros).

This thesis pays attention only to the number of employees without discussing turnovers or annual balance sheets. The number of employees is chosen as the only parameter and thus a company with about 250 employees is regarded as an SME. A number of bigger companies (max. 470 employees) were also engaged in this study to find if there is a greater willingness to report amongst bigger companies. One company, Ekokem (200 employees), was chosen as a reference company.

3.2 BARRIERS AND MOTIVATORS FOR SMALL AND MEDIUM-SIZED ENTERPRISES TO IMPLEMENT ENVIRONMENTAL MANAGEMENT SYSTEMS AND TO ISSUE ENVIRONMENTAL REPORTS

In the EU, 99 % of the more than 20 million (non-primary sector) private enterprises are SMEs. About 19 million of these employ fewer than 10 people and SMEs account for two thirds of the jobs in private enterprises (European Commission 2004). SMEs form a very heterogeneous group and large differences exist between individual companies.

Clement and Hansen (2003) note that SMEs have a substantial role in job creation, stimulation of competition and development of new technologies and products. Thoresen, (2001) programme leader of the Nordic SME forum, underlines that SMEs as a group represent an important structural dynamic in value creation. "Within the economic system, small businesses generate large numbers of start-ups (and failures), a powerful force for experimentation and innovation in themselves."

Although precise data are scarce, there is a general agreement within the relevant literature (European Commission 2004) that SMEs exert considerable pressures on the environment. SMEs taken together could be responsible for up to 70 % of all industrial pollution. Individual SMEs are not big polluters but the effects they have collectively pose a great problem. Emissions to air, water and soil, non-efficient energy use and waste production are all considered as obvious problems (Ecotec 2000). On the other hand SMEs consider themselves as having no or low environmental impact. SMEs have been identified to be concerned about environmental issues but positive environmental attitudes are not translated into actions. SMEs are sceptical about benefits associated with environmental work (Hillary 1999, Perez-Sanchez et al. 2003, European Commission 2004). The gap between the high level of environmentally responsible attitudes amongst the SMEs studied in the literature and the absence of a statistically significant relationship to the firm's actual environmental performance has been termed the "SME problem" (Schaper 2002).

SMEs and their environmental work are therefore of great interest and selected for a closer study in this thesis. Since specific and clear studies of SMEs and environmental reporting were not found the issue is discussed by studying SMEs and environmental management systems (EMS) with the focus on barriers, drivers and solutions for SMEs. Information measurement and reporting is an integral part of an EMS and is indicative of the importance placed on the environment by a company (Gerrans and Hutchinson 2000). The findings concerning SMEs and the environment are compared to the findings in the study on the Finnish SMEs. The specific reporting view is introduced by a brief study of companies' barriers and motivators for environmental reporting.

3.2.1 BARRIERS FOR SMALL AND MEDIUM-SIZED ENTERPRISES TO IMPLEMENT ENVIRONMENTAL MANAGEMENT SYSTEMS

A summary study by Hillary (1999) gives a good overview of the literature up to 1999. The study concerns adoption of formal environmental management systems (EMSs) in SMEs and SMEs' attitudes towards environmental performance. The overview study summarises 33 separate studies published between 1994 and 1999 and gives a detailed description of relevant internal and external barriers to implementation of an EMS.

Hillary draws the conclusion that lack of human resources rather than financial ones is the major internal barrier for an EMS implementation by SMEs. Other identified internal barriers

are frequent interruptions in the implementation of an EMS, the lack of information about EMS and their benefits and company culture and attitudes. The key external barriers are identified as problems with certification and verification processes combined with high costs, uncertainty about market benefits, insufficient drivers for EMSs, lack of sector-specific guidance and material tailored to different sizes of organisations and lack of good quality consultants. The report concludes that internal barriers are more important than external ones.

More recent studies present results and conclusions similar to those drawn in the overview report. Dalhammar (2000) underlines the lack of specialised personnel who have the ability to implement most parts of an EMS on their own. This is partly due to pressure of time and lack of sector specific materials.

The Directorate General for the Environment of the European Commission made a survey in 1997 on the theme of SMEs and the environment (Ecotec 2000). A questionnaire was sent to the member states but only 6 answers were received. Finland was among the countries that replied.

The Directorate General concludes that smaller SMEs have difficulties in meeting the requirements of regulations. Resources are very limited particularly as regards time and money. The main barriers for SMEs, in terms of compliance and in terms of making environmental improvements in general according to the Directorate General are rather similar to the findings by Hillary (1999) and include:

- Lack of time / staff resources
- Lack of financial resources (for investments)
- Lack of understanding of environmental problems and risks
- Economic short termism (i.e. quick payback on investments)
- Lack of expertise / confidence
- Lack of access to appropriate information (e.g. through IT)
- The view of environmental activity as peripheral to core business
- Initiative fatigue / overload (related to lack of staff resources)

Furthermore it is noted that "even in the more 'advanced' Member States the majority of SMEs (industrial and commercial) are still relatively untouched by even basic eco-efficiency ideas (e.g. waste minimisation) and hence there still is a need to increase activity, or at least maintain it, in this regard" (Ecotec 2000, p 62)

SMEs may face difficulties in implementing a formal EMS. Smaller organisations have problems with the language and terminology of formal EMSs (European Commission 2004). This problem is even underlined in the guidance for implementation of EMAS where it is said "There is a perceived problem that SMEs have difficulty in implementing management systems such as ISO 9001, ISO14001 and EMAS. The systems are seen as too bureaucratic and time consuming. The problem is not in understanding the requirements of these management systems but in being able to provide the physical and financial resources to implement and maintain them." (Commission Recommendation 2001, Annex IV)

Biondi and Iraldo (2002) analysed barriers and constraints for SMEs in the environmental innovation process. Their research results indicated that lack of an environmentally oriented culture in SME managements was a considerable barrier to innovation. Most SMEs only aimed at the need to comply with legislation. They also identified the same resource problems already discussed, that is lack of financial resources, indirect costs, lack of time, lack of human resources and expertise, access to information as constraints to environmental innovation. Lack of time and knowledge emerge however as crucial constraints which SMEs are often unable to overcome on their own. The smaller the organisation, the more pressing time constraints seemed to be. The study also showed that uncertainty plays a key role.

Implementing e.g. new environmental technology applications is an experiment. SMEs are waiting for the forerunners to make the tests and verify the real benefits of the technology.

The Swedish Business Development (NUTEK 2002) performed a large survey on small Swedish enterprises (0-49 employees). The report summarises driving forces and barriers to implementation of EMSs in SMEs. Collaboration with other players is suggested as a means of facilitating the implementation process. See Fig. 3.1

The outcome of the survey showed e.g. that it is more common for larger enterprises to be engaged in environmental work than small ones. There are clear distinctions between firms in different sectors; manufacturing enterprises work more actively to achieve environmental goals than trading or service enterprises. The report concluded that small enterprises have to face greater barriers than large companies e.g. relatively speaking, the costs of obtaining certification according to the environmental management system ISO 14001 are considerably higher for small enterprises.

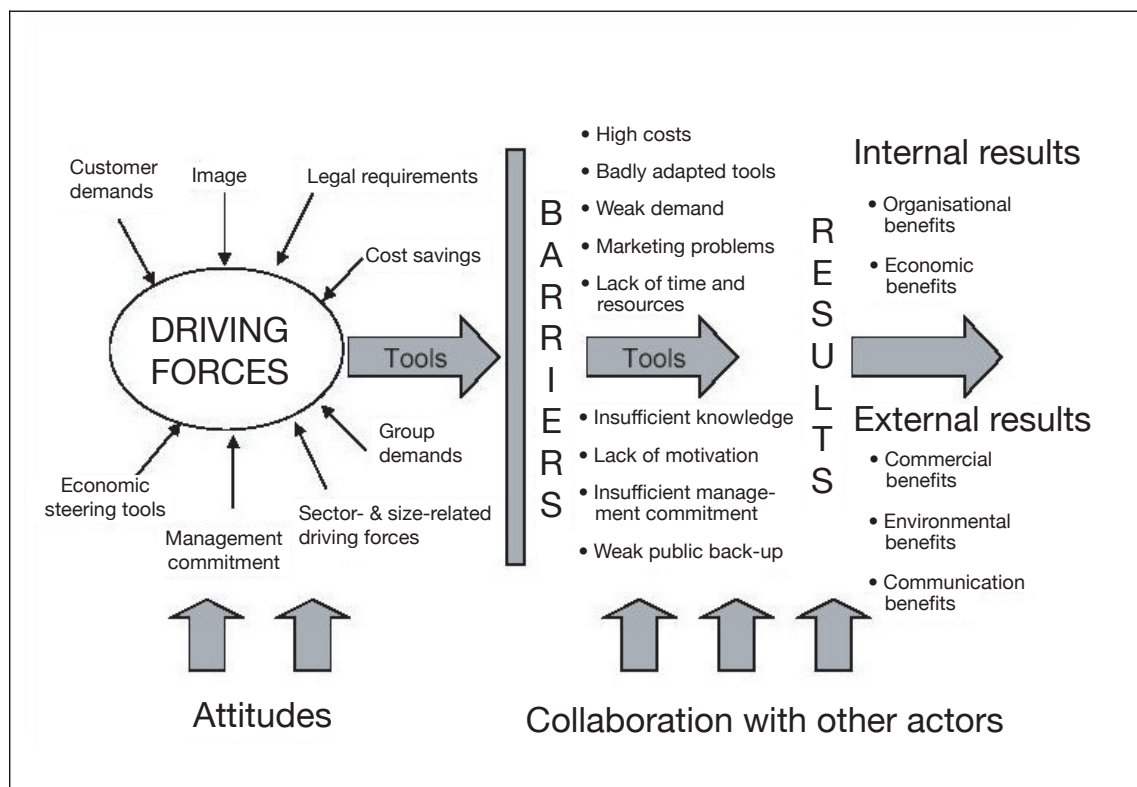


Fig. 3.1. Schematic description of the environmental work of small enterprises. (NUTEK 2002)

Sun and Cheng (2002) compared reasons, practices and effects of ISO 9000 and TQM (Total Quality Management) implementation in Norwegian SMEs and large firms. Though this study was on general quality systems the results are most probably relevant to EMSs too. The study indicated that there are some significant differences between large firms and SMEs in implanting quality systems. SMEs focused on informal, people-oriented approaches and large firms on relatively more structured, organized and process-oriented ones.

Other findings in the literature also indicate that there is a correlation between the size of the company and its attitudes and involvement in environmental work: the bigger the company,

the more likely it is to have a proactive environmental policy (European Commission 2004). This seems to be relevant for the social aspects too. A European Commission report (European Commission 2002) prepared on information provided by partners of the European Network for SME Research (ENSR) brings the social aspects into the discussion.

The report shows that half the European SMEs are involved, to different degrees, in external socially responsible causes. This involvement is positively related to enterprise size, ranging from 48% amongst the very small enterprises to 65% and 70% amongst the small and medium sized enterprises. The involvement does not significantly depend on the sector in which SMEs operate. These results are however in contrast with NUTEK's (2002) report which could identify clear distinctions between the sectors (see 3.2.1). A north-south European divide can be observed. Involvement ranges from 33% of SMEs in France to 83 % in Finland. Support for sporting, cultural and health/welfare activities are the most common external community activities.

Gerstenfeld and Roberts (2000) underline that the practical barriers to environmental management implementation for SMEs seem to be as numerous as the sector is diverse, but there also are widely repeated and common barriers. The authors conclude "In simplest terms, lack of money, time, experience, access to information, support and general misconception and lack of interest in both standards and the environment are echoed throughout most surveys, questionnaires and academic papers on the subject" (p.111)

3.2.2 DRIVERS AND SOLUTIONS FOR SMALL AND MEDIUM-SIZED ENTERPRISES FOR IMPLEMENTING ENVIRONMENTAL MANAGEMENT SYSTEMS

NUTEK (2002) identifies the most important driving forces behind environmental work in small enterprises. They are, in order of importance, (1) management commitment, (2) consumer demands, (2) reduced resource consumption, (4) competition, (5) coercive legislation, (6) demands on subcontractors and (7) future legislation. See Figure 3.1. Perez-Sanchez et al. (2003) identify customers as the main drivers behind the implementation of environmental management tools, followed by legislation. Hillary (1999) identifies comparable benefits (drivers) as mentioned above and notes also that communication channels, skills, knowledge and attitudes are all improved in SMEs adopting EMSs. The most important stakeholders for implementing EMSs are customers, the local government and community, regulators and employees, insurers, the general public and suppliers. (Hillary 1999)

Snijders and van der Horst (2002) see the issue from a corporate social responsibility (CSR) angle including social aspects and note that the main reasons for involvement in CSR, in order of importance, are

- Ethics
- Relations with community
- Customer loyalty
- Relations with business partners
- Employees' satisfaction
- Economic performance
- Codes of conduct
- Third parties' pressure

Biondi et al (2000) ask for flexibility for SMEs and underline that SMEs should be allowed to choose the most appropriate tools for implementing an environmental management system. Furthermore, based on a research involving 358 European companies' suggestions of the most effective ways of implementing environmental management systems for SMEs, Biondi et al (2000) make the following suggestions:

- Technical support for SME personnel
- Financial support and/or economic incentives for SMEs
- Simplified EMAS (and ISO 14000) requirements and/or guidelines targeted at SMEs
- Training initiatives for SME internal personnel
- The possibility of a whole area (e.g. an industrial district), and not just a single enterprise, obtaining environmental certification

The report suggests networking and co-operation methods and tools for measuring, evaluating and comparing environmental performance. Networking seems to be an important theme and highlighted in e.g. the European Commission report (2004) and in the conference "Towards Sustainable Production in SMEs: The Role of Environmental Management Systems and what Public Authorities can do to Encourage their Uptake" on 10 February 2004 in Brussels where the results of the project were presented.

Friedman and Miles (2002) identify a handholding need for SMEs to achieve better environmental performance and find that the presence of handholding support significantly affected success levels according to their study of SMEs. They conclude that handholding needs should be locally based, personal, flexible and felt to be relevant to the SME. Palmer (2000) suggests that environmental information should be practical, easy to access and in a form that can be easily and quickly applied to the organisation.

Dalhammar (2000) suggests, inter alia, incremental approaches to EMSs which is done in a step-by-step manner. Some kind of reward should be issued at every step. An incremental approach is also suggested in the European Commission report (2004). Dalhammar also asks for standardized solutions for EMS implementation adjusted for the type of business. Dalhammar highlights the importance of Environmental Performance Indicators (EPIs) and notes that they do not seem to be widely used in small firms which often have problems in finding good EPIs. He underlines that all players should focus more on performance than the EMSs as such. He says it is important to show stakeholders how the EMS is used and discusses the need of environmental communication.

The importance of sector-specific guidance and material tailored to different sizes of organisations is underlined by Hillary (1999). Revell and Rutherford (2003) underline the importance of trade associations in environmental work of SMEs and they suggest that trade associations should potentially be key tools in reaching the small firm sector in order to implement environmental initiatives.

The emphasis on documented procedures is contrary to the informal way of working in a small organisation (European Commission 2004). It is therefore suggested that consideration must be given to the possibility of standardising less formal EMS e.g. within CEN. A staged approach to EMS implementation is especially underlined.

One interesting question still exists: does implementation of an EMS result in better environmental performance of the company? Ammenberg and Hjelm (2002) compared the environmental reviews for a group of SMEs before and two years after their EMS (environmental management system) implementation. They found that the EMS implementation resulted in significant environmental improvements in general and that an absolute majority of these improvements are consequences of EMSs. Many of the studied small (micro) enterprises lacked systematic environmental efforts before the study and some

of them did not consider environmental issues at all. In this respect the EMS was of benefit. On the other hand half the results were either incalculable or not considered as trustworthy, though external auditors had been able to verify continual improvements considering these facts. The authors thus question if the auditors have conducted a comprehensive analysis of the development of these firms' environmental performance.

3.2.3 BARRIERS AND DRIVERS TO COMPANIES' ENVIRONMENTAL REPORTING

Environmental reporting is based on theories on green communication which essentially involves identifying stakeholders, analysing their needs, evaluating a company's performance, determining the gap between needs and performance, taking actions to close this gap, and reporting the performance to the stakeholders (Vasanthakumar 1996, p.171). Ljungdahl (1999) studied environmental reporting in Swedish listed companies for the years 1990 through 1996. He found that companies directly challenged by environmental groups or pressured by customers felt compelled to develop environmental reporting. Management interests and a proactive approach concerning environmental issues affect the company's environmental reporting. Environmental awards and other companies' reporting practices were important factors as well.

Khanna and Anton (2002) found that practices such as having an internal environmental policy, corporate environmental standards and environmental auditing are motivated more strongly by regulator pressures, while practices such as total quality environmental management and environmental reporting are motivated strongly by the potential for gaining competitive advantage and improving relations with stakeholders.

An implemented environmental management system often leads to publication of a report (Kolk 2003). This holds for example for firms that have implemented ISO 14001 though this standard does not require the publication of a report. Business drivers for sustainability in general contribute to issuing a report. Concerning reporting on social aspects Kolk discusses sustainability drivers in general and identifies the drivers as new market opportunities, improved relationships with stakeholders, reputational benefits, cost and risk reduction. Kolk (2000) summarised a list of firms' motivations for reporting or non-reporting which is presented in Table 3.1.

European Environment Agency (1998) lists the drivers and benefits for pushing companies in the direction of issuing an environmental report. The main drivers are shareholder demands and legal requirements. Among the benefits are positive publicity, improved stakeholder relations and employee motivation. The process of issuing a report can lead to discovery of opportunities for efficiency gains, cost savings and reduction of risk.

Nyqvist (2001) identifies sectoral differences and notes that industries with a large number of environmental problems more often disclose environmental information than other industries. According to Nyqvist, the reasons for disclosing environmental information are laws and regulations, demands and expectations from pressure groups and interested parties which are consumers, trade partners and financiers. Companies expect environmental disclosure to give them positive publicity.

Stray and Ballantine (2000) also identify sectoral differences and argue that the differences are likely to widen rather than diminish. They found that larger companies are more willing to provide environmental information than smaller ones. The turnover of the company is here chosen as an indicator of the company's size and not the number of employees. Issuing an

Table 3.1. A presentation of reasons for firms reporting or non-reporting according to Kolk (2000, p.133)

FIRMS' MOTIVATIONS FOR REPORTING OR NON-REPORTING
<p>Reasons for reporting</p> <ul style="list-style-type: none"> - Enhanced ability to track progress against specific targets - Facilitating the implementation of the environmental strategy - Greater awareness of broad environmental issues throughout the organisation - Ability to clearly convey the corporate message internally and externally - Improved all-round credibility from greater transparency - Ability to communicate efforts and standards - Licence to operate and campaign - Reputation benefits, cost savings identification, increased efficiency, enhanced business development opportunities and enhanced staff morale
<p>Reasons for not reporting</p> <ul style="list-style-type: none"> - Doubts about the advantages it would bring to the organisation - Competitors are not publishing reports - Customers (and the general public) are not interested in it; it will not increase sales - The firm already has good reputation for its environmental performance - There are many other ways of communicating about environmental issues - It is too expensive - It is difficult to gather data from all operations and to select correct indicators - It could damage the reputation of the firm, have legal implications or wake up "sleeping dogs" (such as environmental organisations)

environmental report and implementing an EMS seem to be the business of larger companies. Stray and Ballantine also conclude that there still is much confusion about the nature and purpose of environmental disclosure amongst many companies.

Concluding this chapter one can say that barriers and drivers for environmental reporting are rather similar to those for implementing environmental management systems. Larger companies tend to be more willing to implement environmental management systems than smaller ones. This holds also for issuing environmental reports.

The main barriers identified are lack of human resources, lack of knowledge and information which e.g. result in problems with motivation, lack of time and financial resources. The main drivers are management commitment, stakeholder expectations and legislative demands.

Suggested solutions for higher implementation of EMSs in SMEs are incremental approaches, sector specific guidance tailored to different sizes of organisations, standardised less formal solutions, clear structure on the guidance e.g. concerning environmental performance indicators (EPis). Handholding and networking are suggested as solutions that will facilitate implementation of environmental management systems and environmental reporting in SMEs.

3.3 QUESTIONNAIRE SURVEY OF FINNISH SMEs ON ENVIRONMENTAL REPORTING

29 Finnish SMEs were contacted and asked whether they are interested in participating in a survey concerning environmental reporting by small and medium sized enterprises. The companies were asked questions on reporting practices, challenges and problems concerning reporting performance. Furthermore the companies were invited to express ideas and wishes concerning the reporting guidelines.

The survey was performed in June to August 2002. The companies were randomly selected but in such a way that they represented a broad spectrum of business fields in order that as different views as possible should be obtained. Most of the companies were selected by contacting trade organisations or by visiting web pages of the trade organisations.

One company, Ekokem Oy Ab, was selected as a reference company representing companies with a longer experience of environmental work. Ekokem won an award for the best Finnish environmental report in the series for SMEs in 2001 (Lovio and Tenkamaa 2001). The role of the reference company was to guarantee that at least one experienced company would give its views on environmental reporting. Comments from Ekokem were especially looked forward to and their comments have been given special weight. Ekokem was therefore not randomly selected and, to avoid bias, the company was therefore not informed of its role. The following business fields are represented: Food, textiles, pharmaceuticals, electronic and chemical industry, waste treatment, tourism, metallic and machinery, the energy sector, insurance and consulting companies.

A number of companies were contacted by phone (27) and by e-mail (2) to ask them whether they wished to participate in the survey. Replies from about 15-20 companies were considered statistically representative. Contacting 29 companies should reach the level. The persons contacted were very positive and mostly willing to participate. Since the period chosen for the survey coincided with the period of summer vacations the employees contacted were in some cases overloaded with work and could not possibly find time to answer the questions. Furthermore persons responsible for environmental information were in some companies on vacation. 21 persons promised to fill in the form and 16 answers were received. Only those companies that filled in the form are mentioned in this work.

3.4 THE QUESTIONNAIRE AND ANSWERS RECEIVED

A questionnaire survey with a total of 20 questions was performed to chart the environmental reporting practices and views of Finnish SMEs (See Table 3.2). The form was sent in either Finnish or Swedish and the answers were received in both languages (See Appendices 1 A and B). The questionnaire was mostly sent to the companies by e-mail. Four companies wished the questionnaire paper based.

In the form there were *Yes* and *No* sections, which means that the total number of answers per form was smaller than 20 depending on the environmental engagement of the company and the amount of environmental information provided. The number of questions had to be restricted since people are busy and do not have the time for an extra job.

The questions were open-ended to give the companies an opportunity to formulate their answers as they wished to. Thus the answers varied; some were detailed and described e.g. new investments or specific tests performed at the plant and others were on a more general

Table 3.2. Questions on environmental reporting presented to 21 smaller Finnish companies in 2002.

Part A

- 1 Name of your company and business field
- 2 The person who answered and her/his position in the company
- 3 Contact information
- 4 Number of personnel

Part B

- 5 Present environmental targets and goals of the company
- 6 Present environmental activities

Part C

Has the company provided environmental information in the annual reports?

YES

- 7 In the annual reports of following years
- 8 Why is environmental information provided in the annual reports and how comprehensive is the information?
- 9 Mention the greatest challenges to issuing environmental information in the annual reports

NO

- 10 The main reasons for not issuing environmental information in the annual reports
- 11 Have you planned to issue a stand-alone environmental report?

Part D

Has your company issued an environmental report?

YES

- 12 In the reports, years
- 13 Reasons for issuing an environmental report
- 14 How comprehensive is your report? Number of pages, issues discussed.
- 15 Are you only discussing environmental issues in the report or have you included aspects of corporate social responsibility? From which year?
- 16 Please describe the greatest challenges when issuing your environmental report

NO

- 17 Please mention the main reasons for not issuing an environmental report
- 18 What kind of support could be of use when issuing an environmental report?

Part E

19 What issues should a guideline on environmental reporting for SMEs include? Views and ideas.

20 Other things

level. Some companies with extensive environmental work referred to information available on their web pages, where comprehensive information was presented. The answers to specific questions could, of course, be found on Internet, but the interpretation of the comprehensive text was left to the reader and not briefly provided by the company representative. The answers in this study cannot therefore be applied for a strict statistical investigation. In Appendix 2 the answers to questions 7-20 are provided in Finnish or Swedish.

The forms were filled in by project leaders and managers, quality, safety or environmental managers and an information officer. Three persons did not fill in "*Position in the company*". The answers are not quoted company by company in this study but the most essential things of interest are presented. A brief presentation of the companies and their environmental objectives and activities is given in Table 3.3 and Appendix 3 and 4 to give an overall picture of the companies. The answers presented by the companies in the survey are handled on a general level. In this study it is not of interest to show the correlation between a certain named company and the answers given. On the other hand it is of interest to find if there is a correlation between the environmental approach and the size of the company. Therefore this detail is noted and discussed in the study.

3.5 A PRESENTATION OF THE COMPANIES SURVEYED

In Table 3.3 and Appendix 3 a brief presentation is given of the companies surveyed. The information is obtained from the forms filled in by the companies. Supplementary information, especially concerning environmental information on the web, was collected from the companies' websites in summer 2002. Finding information on the web pages can sometimes be difficult due to different design and wordings. Therefore, if environmental information is available, this fact is mentioned, but the opposite is not, since the information may be available but not easily found.

Table 3.3 The Finnish companies surveyed. For a more detailed description see Appendix 3

Company	Number of employees	Business fields
Anne Linnonmaa OY	38	Textiles
BioTie Therapies Ltd	70	Pharmaceuticals
Chips Abp	100	Food
Ekokem Oy Ab	200	Chemicals
Espoon Sähkö plc (now E.ON)	410 (2001)	Energy sector
Genelec Oy	SME*)	Electronics
Kiilto Oy	219	Chemicals
Oy Lival Ab	160	Lighting equipments
Orfer Oy	75	Metallic and machinery
Saanio & Riekkola Consulting Engineers	23	Consulting
Savonlinnan Kylpylaitos, Hotelli Korpilampi	60*)	Tourism
Stala OY	180	Metallic and machinery
Temet OY	60	Protective equipment and systems
Veritas	270	Insurance
Virke Oy	470	Textiles

Some of the companies gave very detailed answers while others chose to give general ones. The environmental aims and objectives and environmental activities are here only briefly mentioned and on a general level just to give an overall description of the companies' environmental policy and activities.

3.6 ENVIRONMENTAL INFORMATION ISSUED IN ANNUAL REPORTS, ENVIRONMENTAL REPORTS OR ENVIRONMENTAL INFORMATION ON THE WEB PAGES

Environmental reporting practices of the companies were of interest to gain recommendations for guidelines on environmental reporting. Some of the questions were formulated to get information on how common it is to inform on environmental issues and to find reasons for providing and not providing information.

In the questionnaire sent to the companies, environmental reporting practices are discussed in Part C (*Has the company provided environmental information in the annual reports?*) and in Part D (*Has your company issued an environmental report?*). Reasons for reporting are handled in section 3.8. In this section statistical figures are presented and discussed. The questionnaire was limited to environmental information in annual reports or environmental reports. To minimize the number of questions, no questions were asked on general environmental information though it would have been of interest and would have revealed the companies' attitudes to providing environmental information.

The study was completed by a visit to the companies' web pages in summer 2002. The companies were not asked whether they provide environmental information on the web pages since information should be easily found to serve stakeholders. Environmental information may be provided on companies' web pages, but it is hard to find and the survey is therefore perhaps not strictly true.

The enquiry shows that out of 16 companies surveyed, 3 (19 %) answered that they have issued an environmental report. 5 (31 %) stated that they provide environmental information in the annual report and 11 (69 %) said that they don't provide any environmental information in the annual report nor issue an environmental report. 4 companies, that is 31 % of those not issuing an environmental report (13 companies) plan to do so. Only 3 companies (19 %) have issued both environmental information in the annual report and a stand-alone environmental report. Only 7 (44 %) companies did provide environmental information on the web pages.

All five companies that had issued environmental information in the annual report and/or had issued an environmental report stated that the companies have both environmental objectives and activities. See Table 3.4. A presentation of the companies' environmental objectives and activities and reporting is available in Appendix 4. The correlation between issued environmental information and objectives and activities is clear, but the logic does not hold in the other direction. 7 companies with environmental objectives and activities in place did not issue environmental information in the annual report or an environmental report. Three of them in any case provide environmental information on the web sites. It is worth noting that over half of them obviously do not regard environmental issues as worth mentioning on Internet. Similar findings were reported by O'Dwyer (2003) in a study of Irish listed companies. In a number of companies much environmental impact information was available and reported internally but not externally. One company expresses exactly this view and writes "We have a working internal reporting system which also covers environmental issues. A separate environmental report does not give us any added value". This answer concerns

external environmental reporting. Kolk (2003) sees the correlation between environmental work and reporting and concludes that an implemented environmental management system often leads to publication of an environmental report.

Corporate tendencies towards social responsibility were of interest and the answers to question 15 (*Are you only discussing environmental issues in the report or have you included aspects of corporate social responsibility? From which year?*) should throw a light on this theme. Corporate Social Responsibility (CSR) is a commonly used expression in the English language but does not have its full equivalence in Finnish or in Swedish. The expression "social responsibility" was used without explaining it in the Finnish or Swedish questionnaires.

Table 3.4. Environmental and CSR (Corporate Social Responsibility) information provided by the companies surveyed in correlation to the number of employees and environmental objectives and activities. The CSR column concerns CSR information provided at present or planned for the future.

Number of employees	Env. objectives	Env. activities	Env. information in the annual report	Env. report issued	Plans for an env. report	Env. information on the web pages	CSR
SME *)	x	x	-	-	-	-	-
23	-	x	-	-	-	-	-
38	x	x	-	-	x	x	x
60	x	x	-	-	x	-	-
60	x	x	-	-	-	-	-
70	-	-	-	-	-	-	-
75	x	-	-	-	-	x	-
100	x	x	x	-	x	-	-
160	x	x	-	-		x	x
180	x	x	-	-	x	-	-
200 reference	x	x	x	x		x	x
219	x	x	x	x		x	x
270	-	x	-	-	-	-	-
410	x	x	x	x		x	-
425	x	x	x	-		-	-
470	x	x	-	-		x	x
16 companies	14 88 %	14 88 %	5 31 %	3 19 %	4 25 %	7 44 %	5 31 %

*) Number of employees not given. Env. = environmental

The findings show that CSR aspects were only mentioned in the reference company 's (Ekokem) environmental report. One of the companies surveyed plans to include CSR in their next environmental report. One company is certified to the SA8000 standard of social accountability. The latter information was available on the company's web pages. The findings are presented as a summary in Table 3.4. A column for "CSR information provided at present or planned for the future" is used. If the company has given any information on CSR in the form or information on CSR is found on the web there is a cross in the column. A total of 5 companies (31 %) provide or plan to provide CSR information.

Environmental information issued by companies with 100 or fewer employees is compared with companies with more than 100 employees. The findings presented in Table 3.5 show a correlation between the number of employees and environmental information issued. Companies with more than 100 employees seem to be more willing to provide environmental information than smaller companies. The company that did not give any information on number of employees ("SME") is not noted in the statistics below. The total number of companies is thus 15 and the percentage is calculated on the total number (15) of the companies.

Table 3.5. The correlation between number of employees and environmental or CSR information provided. Total number of companies is 15.

Environmental information in/on	≤ 100 employees	> 100 employees
Environmental report	0 (0 %)	3 (20 %)
Annual report	1 (7 %)	4 (27 %)
Web pages	2 (13 %)	5 (33 %)
CSR information provided at present or planned for the future	1 (7 %)	4 (27 %)

The results generally agree with those in previous studies (e.g. Stray and Ballantine, 2000, NUTEK 2002, Nyqvist, 2001 and European Commission 2004). The bigger the company, the more likely it is to have a proactive environmental policy with environmental objectives and activities and larger companies are more willing to provide environmental information than smaller ones.

3.7 ENVIRONMENTAL INFORMATION ON THE WEB

A brief supplementary study of environmental information on the companies' web pages was performed. The search focused on headings indicating that environmental information could be found. No thorough search on environmental issues was thus performed. One company (180 employees) actually provided environmental information, but as part of a larger passage concerning the company vision. To find environmental information hidden under a heading which does not indicate an environmental issue needs skill, time and good luck. Therefore this notation is left out from the study.

Some companies provided comprehensive environmental information and the information was easily found on the main web page or under company information. A separate heading e.g. "*Environment*" facilitated the searching process. One company provided the heading "*Corporate responsibility*" and then divided the issues into "*Economic responsibility*", "*Social responsibility*" and "*Environmental responsibility*". Another provided the heading "*The Environment and Social Accountability*". Environmental information could also be found

under quality and safety issues, "*Quality systems*", since some companies are devoted to e.g. the Responsible Care programme (see 2.2.4).

Companies often used the web for product information and showed labels e.g. the Nordic environmental label. This kind of information was brief but clear and visible enough to show that the company prioritises environmental issues.

The brief study of the companies' web information shows that information on the web varies a lot and that no informal standard has gained ground to make the process of finding information easier.

Scott and Jackson (2002) analysed the *Environmental, Social and Sustainability Reporting on the World Wide Web: A Guide to Best Practice* by the organisations ACCA and Next Step Consulting (2001). They point out that stakeholders are frustrated by reports that are difficult to navigate, search and read, and which are generally user-unfriendly. Scott and Jackson underline problems with failing to promote the site and placing reports where they cannot be easily found. Shepherd et al (2001) also notes that online reports are difficult for the users to locate from the corporate homepage and that navigation within the report can be difficult.

3.8 VIEWS ON PROVIDING ENVIRONMENTAL INFORMATION

All the companies interviewed, except one, have implemented some kind of environmental policy defining objectives or environmental activities. Many of the companies see an advantage in providing information on environmental issues on the web or in the annual report, or issuing a stand-alone environmental report. Their motives for providing environmental information, or not doing so, would hopefully give input to environmental reporting guidelines. The reasons are mentioned in more detail in the text.

The companies were asked the following questions:

- Question 8: *Why is environmental information provided in the annual reports and how comprehensive is the information?*
- Question 10: *The main reasons for not issuing environmental information in the annual reports*
- Question 13: *Reasons for issuing an environmental report*
- Question 17: *Please mention the main reasons for not issuing an environmental report.*

The questions were open ended and the replies varied in exactness. In some replies the companies only referred to an issue and it was left to the reader to interpret the real meaning of the statement. A statistical summary of the main barriers and drivers for environmental reporting and views concerning environmental reporting guidelines are in any case provided in Table 3.6 in 3.8.3 and Table 3.7 in 3.9 to give an approximate overview.

3.8.1 REASONS FOR NOT PROVIDING ENVIRONMENTAL INFORMATION IN THE ANNUAL REPORT OR NOT ISSUING A STAND-ALONE ENVIRONMENTAL REPORT

The study revealed that one of the main reasons that companies do not issue environmental reports or provide environmental information in the annual report is lack of resources. 30 %

of the companies clearly underlined lack of resources as one reason for not reporting. See Table 3.6 in 3.8.3. Similar findings are reported in previous studies (Hillary 1999, Ecotec 2000, Gerstenfeld and Roberts 2000 and Biondi and Iraldo 2002) Companies expressed their willingness to report but needed e.g. one extra person for doing the job. They find it very time consuming especially when it comes to preparing a stand-alone environmental report. To collect information and to handle it systematically seems to be too challenging (25 %). Kolk (2000) also identifies this problem and notes that companies find it difficult to gather information and select correct indicators. Stray and Ballantine (2000) note that there is much confusion about environmental disclosure among SMEs. On the other hand willingness to report was apparent in some cases. One company, for instance, had just started the environmental work and wanted to gain more experience, information and better routines before producing an environmental report. 25 % of the companies expressed that they needed more experience of environmental work or an EMS in place before they would start reporting. The timing was not yet right for reporting.

One very important reason found for not reporting was lack of motivation. As large a proportion as 45 % referred to stakeholder demands or communication as barrier or driver to environmental reporting. No added value is seen by reporting (25 %). Why use resources on issuing a report if no one asks for it? Stakeholders should therefore express their needs for environmental information. Companies do not always see benefits in voluntary information work. Kolk (2000) and Biondi and Iraldo (2002) also found that companies have doubts concerning the advantages of environmental reporting. A company mentioned that it would start issuing environmental reports as soon as it becomes compulsory. Legislative demands as drivers were mentioned by 25 %. These results are in line with previous studies (Hillary 1999, NUTEK 2002 and Biondi and Iraldo 2002) where legislation is identified as one of the main drivers for environmental work of SMEs.

The review shows various views on communicating environmental information to the stakeholders. Direct communication with customers is sometimes preferred. One company mentioned that customers are satisfied with a narrower approach and there is no need for a comprehensive environmental report. One company stated that providing information through reporting can even expose it to criticism. Kolk (2000) also identifies the problem with waking up "sleeping dogs", which could damage the reputation of the firm. Communication through environmental reports is not a sufficient way to inform. Complementary information channels are needed.

Many companies provide environmental information on the web pages. Information on Internet is issued more freely. Information on the web is often on a more general level expressing e.g. environmental policy aspects. Detailed technical information is less often available.

If the company sees no environmental challenges or environmental impacts of its own business, reporting is found useless. Environmental impacts of a relocated company thus do not pose a direct problem for the company working in Finland. Companies also mentioned that they do not produce waste at all or that the only waste produced is recyclable paper in the office. This was found to be a reason for not reporting (25 %). This finding can be identified as a clear problem. SMEs do not consider themselves as big polluters though SMEs collectively exert considerable pressures on the environment (European Commission 2004).

Simple things like layout aspects can sometimes be a great challenge. Internal reporting, which also includes environmental issues, is preferred to external. If environmental issues are handled on a regular basis environmental reports are not needed. 25 % of the companies found it difficult to collect and handle a large amount of data. To translate the data into interesting information was found even more challenging.

Companies issuing a stand-alone environmental report usually only briefly mention environmental issues in the annual report or leave out environmental information. Handling too many issues in the annual report is not desirable. The annual report should not be too comprehensive. If a company prefers a non published brief annual report it is not relevant to include environmental issues in the report. This concerns also annual reports issued for public authorities.

3.8.2 REASONS FOR PROVIDING ENVIRONMENTAL INFORMATION IN THE ANNUAL REPORT OR ISSUING A STAND-ALONE ENVIRONMENTAL REPORT

Three (19 %) of the companies studied have issued a stand-alone environmental report. One of these companies was Ekokem selected as a reference company. The main reasons for issuing environmental reports are the need of an open communication to all stakeholders. Especially if the company is quoted on the stock market this was found important. Furthermore the companies wish to demonstrate that environmental aspects are included as part of the business and that no severe environmental risks exist. Another important reason for issuing environmental reports is demands for environmental reporting expressed by stakeholders or authorities.

If a company has done a lot of work implementing environmental management systems as a consequence of this, it is also relevant to issue an environmental report. The companies interviewed saw benefits in demonstrating the environmental activities of the company.

Since only five of the companies had gained experience from issuing environmental information in the annual report or an environmental report and thus could explain reasons for it, the selection of answers is limited. However these answers support earlier findings by other authors (e.g. European Environment Agency, 1998, Hillary, 1999, Kolk, 2000 and 2003, Nyqvist, 2001, Khanna and Anton, 2002, NUTEK, 2002, Snijders and van der Horst, 2002).

3.8.3 SUMMARY OF MAIN BARRIERS AND DRIVERS OF ENVIRONMENTAL REPORTING IN RELATION TO COMPANY SIZE

A study of the main barriers and drivers for environmental reporting in relation to company size was performed. See Table 3.6. The questions addressed to the companies were open ended and the replies thus varied in exactness. The statistical values are consequently approximate. Stakeholder relations can be regarded as both drivers and barriers. If no one asks for a report companies are not motivated to report and vice versa. Stakeholder demands are found as important drivers for reporting.

Table 3.6 shows a weak relation between company size and expressed views. Larger companies are more willing to express their views concerning barriers and drivers for environmental reporting. In addition, no significant differences in opinions concerning issues discussed in relation to company size can be seen. The drivers and barriers for reporting were discussed in more detail in sections 3.8.1 and 3.8.2.

TABLE 3.6 Main drivers and barriers for environmental reporting identified by the companies in relation to the company size (number of employees). Frequency of the drivers or barriers mentioned by the companies given. 16 companies gave their views.

Drivers or barriers for reporting	≤ 100 employees	> 100 employees	Σ	%
Stakeholders demands or communication to stakeholders mentioned	3	4	7	45
Legislative demands as drivers referred to	2	2	4	25
Lack of resources mainly in terms of human resources and time	3	2	5	30
More experience needed until reporting can start Environmental policy or management system regarded as base for reporting	2	2	4	25
Challenges faced by collecting and handling large amount of data and information	1	3	4	25
No identified needs or added value of environmental reporting	1	3	4	25
No environmental problems identified and thus no need for environmental reporting	2	2	4	25
	14	18	32	

3.8.4 COMPREHENSIVENESS OF THE ENVIRONMENTAL REPORT OR COMPREHENSIVENESS OF INFORMATION PROVIDED IN ANNUAL REPORTS

Information concerning comprehensiveness of environmental information in the annual report was requested in question 8 (*Why is environmental information provided in the annual reports and how comprehensive is the information?*). Information concerning the comprehensiveness of the environmental reports was provided in the answers to question 14 (*How comprehensive is your report? Number of pages, issues discussed*). Five companies (31 %) mentioned that they have issued environmental information in the annual report. Since one company did it only before 1998 no information on its comprehensiveness was given. One company noted that the annual report for 2001 includes the company's quality and environmental policy. The other companies informed only on the years when environmental information was included. No details were provided on what the environmental information concerned.

The reference company (Ekokem) gave a brief presentation on what the environmental report includes. The environmental report fulfils the demands of EMAS. Research and Development issues, economic issues and social reporting are discussed. The other two companies mentioned the number of pages (20 p and 14 p) and years of publishing.

3.9 CHALLENGES IN ENVIRONMENTAL REPORTING. SUGGESTIONS FOR GUIDELINES

The companies were asked to give comments and suggestions for guidelines on environmental reporting. Further they were invited to express their views concerning environmental reporting. Three of the companies have already issued an environmental report

and had therefore gained some reporting experience. Five of the companies have issued environmental information in the annual report. Special attention was paid to views presented by the reference company (Ekokem) since it has gained a lot of experience in providing information on environmental issues.

The companies were asked the following questions. The number of answers received per question is mentioned in brackets:

- 9 *Mention the greatest challenges to issuing environmental information in the annual reports* (2)
- 16 *Please describe the greatest challenges when issuing your environmental report* (4)
- 18 *What kind of support could be of use when issuing an environmental report?* (8)
- 19 *What issues should a guideline on environmental reporting for SMEs include? Views and ideas.* (13)
- 20 *Others* (2)

The questions above are not handled separately since the views expressed concern environmental reporting on a general level and are not strictly connected to the question referred to.

The findings show that the main view (60 %) among all the comments and ideas presented was the need of some kind of guidelines, models or practical examples to make the reporting easier. See Table 3.7. Furthermore it was underlined that the reports should be issued according to a standard model so that the companies can be compared. 10 % underlined the need of standardised solutions. This need of guidelines is also identified by earlier studies (Hillary 1999, Dalhammar 2000, Ecotec 2000 and Friedman and Miles 2002). A summary of views expressed by the companies is presented in relation to company size.

Table 3.7. Views expressed by the companies surveyed concerning environmental reporting guidelines in relation to the company size (number of employees). Frequency of the views mentioned by the companies given.

Suggestions for guidelines	≤ 100 employees	> 100 employees	Σ	%
Models e.g. a form, practical examples	4	6	10	60
Standardised solutions, recommendations, Comparability underlined	1	1	2	10
Clarification of terms and concepts, not too complex, easy to read	2	3	5	30
Performance oriented reporting, LCA aspects	2	1	3	20
Special guidelines only for SMEs not needed	-	1	1	5
How to measure indicators	-	1	1	5
Guidelines of various complexity	-	1	1	5
Sector specific guidelines	-	1	1	5
CSR aspects should be included	1	1	2	10
	10	16		

The greatest challenge for a reporter is the great amount of environmental information to handle. Companies need advice on what issues to concentrate on, how to present the data and in which order. The report should not be too comprehensive but should include the most

essential things. Comprehensive reports are time consuming to produce, hard to read and furthermore too many issues reported make the comparison with other companies difficult. The report should be easy to read and nevertheless be informative enough. Complicated terms should thus be avoided or at least explained. 30 % saw a need for clarification of terms and concepts and expressed that the report should not be too complicated. Earlier studies (European Commission 2004) underline that smaller organisations have problems with the language and terminology of formal EMSs. Numbers and statistics should also be sparingly used. It is important that the report is interesting to read. One company noted that the environmental approach represents soft values that should be reflected in the reporting.

The companies made some suggestions on environmental reporting guidelines. A clear model for reporting is wished. The model should e.g. be like a form. The company fills in needed information, handles the information and reports on it according to the model. The model should help the companies to concentrate on the most essential parameters. Collecting information needs planning, care and a systematic approach. A form guarantees also that no important parameter is forgotten. This should also help in avoiding overlapping which is often the case in environmental reports.

A company asked for reasons for including specific parameters in the report. How to measure different indicators was also on the shopping list. Another company welcomed various forms and models for the different business fields. It was suggested that trade organisations should provide the guidelines. The role of trade organisations in environmental work of SMEs is also underlined by Revell and Rutherford (2003).

Concrete models on reporting practices in corresponding industries would be of help. Furthermore suggestions for models for comprehensive reporting and models for a narrower approach to be used according to stakeholders' needs were expressed. Flexible solutions for SMEs are also suggested by Biondi et al (2000) and standardised solutions adjusted for the type of business by Dalhammar (2000).

Clear examples of successfully performed reports are welcomed. Real reports are usable, but the companies also wished fictitious theoretical reports. At every passage well chosen examples and instructions on how to report are desired. A list of the parameters and the order in which to report on these would be of help to start with.

Two companies brought up CSR aspects. One company mentioned that there is a need for dealing with social responsibility issues and presented specific examples like working conditions and the age of the workers for persons working in the producing countries. The other company, the reference company, suggests that CSR aspects should be included in the reporting guidelines.

General views were also presented. One company stated that environmental demands are continuously increasing. Once you have reached the level it is raised again. A company brought up the challenge of frequent reporting and mentioned that reporting every year is a problem. It is hard to make the reports interesting and different every year. Issuing an environmental report every second or even every third year can be sufficient for SMEs. One company said that reporting guidelines only for SMEs are not needed. The guidelines should take into account all companies. Others felt that there is no need for environmental reports. Information, if needed, can be provided on the web pages. Two companies expressed that it is challenging to find and interpret all environmental legislation into a practical every day level.

The study shows that there seems to be a difference between larger and smaller companies on providing ideas for environmental reporting guidelines. Larger companies tend to have a clearer picture of what they want, perhaps due to the fact that they are more experienced in reporting. For smaller companies reporting principles seem to be more vague. On the other

hand smaller companies clearly expressed the need of guidelines and one company underlined the importance of standardised solution. They seemed worried about terminology. Two smaller companies emphasised performance oriented reporting.

3.10 FINDINGS

This part includes a study of environmental reporting practices concerning 16 Finnish companies most of which are SMEs. One company was chosen as a reference company. The role of the reference company was to guarantee that at least one experienced reporting company was welcomed to give its views. The companies represented a broad range of sectors. See Appendix 3. Sector specific studies were not made. The study was performed by sending a questionnaire to the companies regarding their reporting practices and views (see Fig. 3.2). The replies are available in Finnish or in Swedish in Appendix 2.

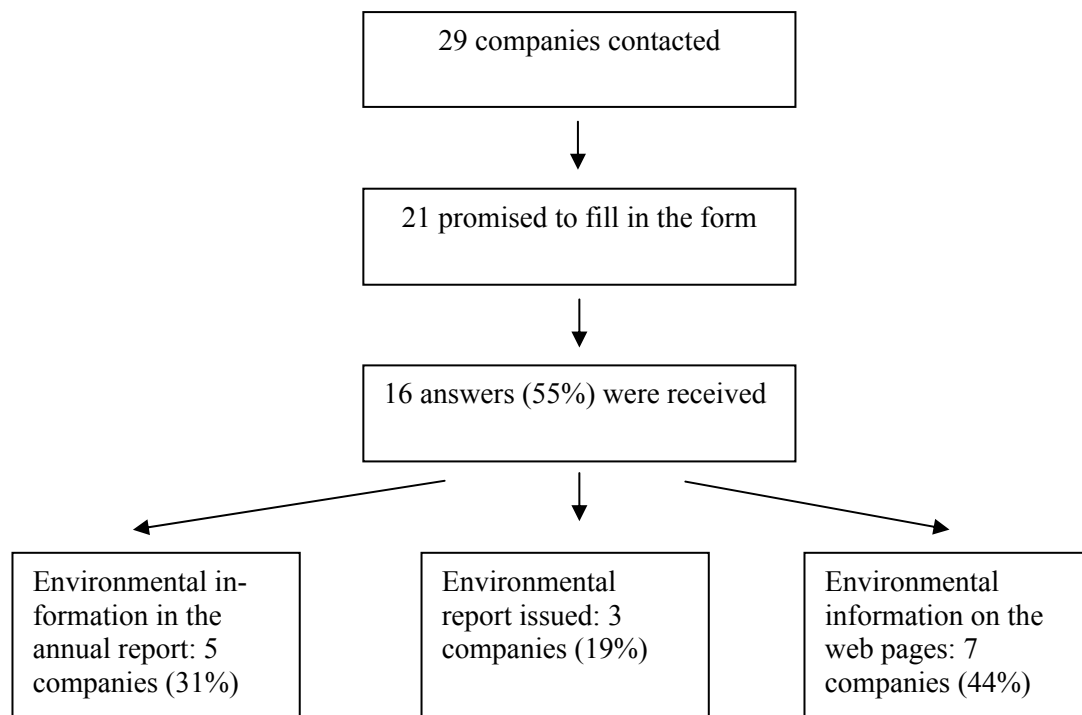


Fig. 3.2. Environmental information provided by Finnish companies (23-470 employees) contacted in the study.

The questionnaire included 20 open-ended questions (see Table 3.2). The answers in this study cannot therefore be applied for a strict statistical investigation, but can be used as input to guidelines for environmental reporting. It is most likely that persons interested in environmental issues and companies performing well in the environmental area are most willing to answer. The results can therefore be biased.

A literature study on barriers, drivers and suggestions for implementing environmental management systems and on environmental reporting by SMEs was performed. The purpose

of this study was to get a background and to see whether the findings in the literature correspond to the findings concerning the studied Finnish companies most of which are SMEs.

The findings presented in Table 3.4 and Table 3.5 show a correlation between the number of employees and environmental information issued. Larger companies seem to be more willing to provide environmental information than smaller ones. This lends weight to the findings presented by previous authors (e.g. Stray and Ballantine, 2000, NUTEK 2002, Nyqvist, 2001 and European Commission 2004) who argue that larger companies tend to issue environmental reports. The reasons for this can be indicated in the following.

The study found that one of the main reasons that companies do not issue environmental reports or provide environmental information in the annual report is lack of resources. Lack of human resources and time is found as the main resource problems. Lack of knowledge is indirectly mentioned by e.g. expressing the need for guidelines. Lack of money is only indicated. Similar findings are reported in previous studies (Hillary 1999, Ecotec 2000, Gerstenfeld and Roberts 2000, Biondi and Iraldo 2002).

The main reasons for issuing environmental reports are the need of an open communication to all stakeholders and demands for environmental reporting expressed by stakeholders or authorities (legislative demands). 45 % of the companies indicated that stakeholder demands or lack of these affected their reporting. The companies face motivation problems if no one asks for a report. These results are supported by earlier findings by other authors (European Environment Agency, 1998, Hillary, 1999, Kolk, 2000 and 2003, Nyqvist, 2001, Khanna and Anton, 2002, NUTEK, 2002, Snijders and van der Horst, 2002).

Other important drivers also presented by the other authors are management commitment and cost savings. These drivers are not mentioned by the companies studied.

In this study the "SME problem" (Schaper 2002) was also identified. The SME problem is defined as the gap between a high level of environmentally responsible attitudes and a statistically significant relationship to the firm's actual environmental performance. The companies showed a positive attitude to environmental issues but not all companies could demonstrate significant environmental performance.

A summary of the main reasons found in this study for issuing environmental information, or for not doing so, is as follows:

A REASONS FOR NOT PROVIDING ENVIRONMENTAL INFORMATION IN THE ANNUAL REPORT OR NOT ISSUING A STAND-ALONE ENVIRONMENTAL REPORT

- Lack of motivation. If the stakeholders do not ask for environmental information, why then provide it? No legislative demand.
- Lack of resources mainly in terms of human resources and time.
- To select correct indicators, to collect and handle environmental information is too challenging.
- Environmental work has not reached the level of reporting maturity.
- Views on informing on the environment. An environmental report is not the most efficient way of informing. Information e.g. on the web pages is preferred by some companies.
- The company considers itself as having no or low environmental impact.

B REASONS FOR PROVIDING ENVIRONMENTAL INFORMATION IN THE ANNUAL REPORT OR ISSUING A STAND-ALONE ENVIRONMENTAL REPORT

- Stakeholder or authority demands for environmental reporting.
- Need for open communication.
- Benefits of demonstrating environmental activities of the company.
- To demonstrate that no environmental risks exist.

A brief complementary study of environmental information provided on the companies' web pages was performed as well. The study shows that information on the web varies a lot and that no informal standard has gained ground to make the process of finding information easier. The problem with locating environmental reports and navigating on websites is also underlined by earlier research (Shepherd et al, 2001 and Scott and Jackson, 2002)

Inviting companies to give their views on reporting and ideas concerning environmental reporting guidelines gave more information than expected. The companies were willing to present ideas and views, which indicates a clear interest in the subject of reporting. The answers show that there is a need for standardised reporting practices and clear instructions on what issues should be treated in the report. Ten companies (60 %), including the reference company, expressed the need for some kind of models, guidelines or examples. This need for guidelines is also identified by earlier studies (Hillary 1999, Dalhammar 2000, Ecotec 2000 and Friedman and Miles 2002)

Clarifications of concepts are important. This problem is also identified in the European Commission report (2004) on SMEs and EMSs. The results also show that CSR (Corporate Social Responsibility) aspects are of interest to the companies and should therefore be included in the guidelines.

There are a lot of companies that already have started environmental reporting and they want to improve their reporting practices. The companies are on different levels and their needs differ. A staged or a step-by-step approach and the possibility of standardised less formal EMSs for SMEs (e.g. within CEN) is also suggested in other studies (European Commission 2004 and Dalhammar 2000). Flexibility is also underlined by Biondi et al (2000).

The results indicate that SMEs need sector specific flexible guidelines. Hillary (1999) also presents this idea of sector specific material tailored to different sizes of organisations. The companies suggest that trade associations should give recommendations for environmental reporting. This idea is also presented by Revell and Rutherford (2003) who underline the importance of trade associations in environmental work of SMEs and they suggest that trade associations should potentially be key tools in reaching the small firm sector in order to implement environmental initiatives.

The companies also expressed that not all companies need to issue a report every year. It is hard to make the reports interesting and different every year especially if the activities of the companies or environmental activities have not changed so much during the year. Issuing an environmental report every second or even every third year can be sufficient for SMEs.

SUMMARY OF THE MAIN FINDINGS FROM THE SURVEY OF FINNISH SMEs:

- There is a need for environmental reporting guidelines.
- A clear model, e.g. a form to fill in, on how to report is desired. The model should give advice on what to report on, in which order, how to measure and handle the results.
- Different models for different business fields are needed.
- Environmental reports should be comparable.
- The reports should not be too comprehensive but include the most essential parameters and be easy to read.
- Different models according to stakeholders' needs should be applicable. The comprehensiveness should vary according to the needs.
- CSR aspects should be included in reporting guidelines.
- There is a need for guidelines for Web reporting.

Suggested solutions found in the literature for higher implementation of EMSs in SMEs are incremental approaches, sector specific guidance tailored to different sizes of organisations, standardised less formal solutions, clear structure on the guidance e.g. concerning environmental performance indicators (EPIs). Handholding and networking are suggested as solutions that will facilitate implementation of environmental management systems and environmental reporting in SMEs. The company should focus more on environmental performance than on environmental management systems as such.

A lot of reporting guidelines exist but they are apparently not well known or probably too complicated and time consuming to be used. Small and medium sized companies are willing to develop reporting practices but for that purpose clear and simple guidelines applicable to their company are needed.

4 DEVELOPMENT OF ENVIRONMENTAL REPORTING OF SEVEN NORDIC COMPANIES

4.1 INTRODUCTION

Part two of the empirical study is presented in this chapter. The aim of this study was to survey some larger Nordic companies' environmental reporting trends. If some trends could be identified this would give valuable input to a standardised reporting framework. The reports were studied to find ideas for the framework.

The study is in part based on an earlier study performed on a survey of environmental reporting practices of seven Nordic companies (Törnroos 1999). The same companies as in the 1999 survey were selected for an analysis of environmental reporting trends in this study. Nordic companies were of interest since one can assume that cultural differences between the Nordic countries are small and in this respect cultural bias is minimised. On the other hand the Nordic companies involved in the study are multinational ones with business in many countries and the companies are therefore probably strongly influenced by international cultural trends.

Reporting on corporate sustainability is "becoming mainstream business" according to a survey by the accountancy KPMG (Kolk and van der Veen 2002). Based on earlier KPMG surveys of top companies the 2002 report concludes that the overall reporting tendency is rising. The figures for reporting in the Nordic countries, except Iceland, are presented in Table 4.1.

Table 4.1. Source: KPMG, (Kolk and van der Veen 2002)

Corporate reporting among top 100 companies			
Country	1996	1999	2002
Denmark	8 %	29 %	25 %
Finland	7 %	15 %	32 %
Norway	26 %	31 %	29 %
Sweden	26 %	34 %	26 %

KPMG suggests that the decreases (Denmark, Norway and Sweden) are due to reporting companies being replaced e.g. through mergers rather than reporting going out of fashion in these countries.

Within Europe, several countries have passed legislation aimed at increasing environmental reporting (Emtairah 2002). Three of those countries are Nordic. In Sweden companies operating on permits have to report to the authorities on their environmental performance (SNFS 1993:1, MS57). Under accounting legislation certain companies must, from 1999 onwards, report on emissions and state significant environmental impacts in annual accounts. In Denmark environmental reporting has been compulsory since 1.1.1996. Certain companies have to produce "Green accounts" (Grønt Regenskab) under amendment to the Environmental Protection Act. The Danish regulations state clear objectives for reporting to both authorities and to the public. In Iceland a similar regulation as that in Denmark on green accounts has been compulsory since 2003 (Umhverfisstofnun, 2002). In Norway the Norwegian Companies Act and the Law of Accounts state that the company must report on its environmental pollutions and actions and/or plans for prevention. These three Nordic

countries have great similarities regarding accounting legislation and standards (Nyqvist 2003). In all three countries, the regulation aims at those whose activities have a significant impact on the environment. Norway has a more extensive demand for information requiring the companies to inform about the discharges of their products. The "green accounts" in Denmark must be easy to understand and usable for non-professional readers. Auditing of environmental information is only required in the Swedish legislation.

Mandatory reporting of environmental information is limited to a few countries. In Finland environmental reporting is voluntary. Some exceptions pertain to environmental permission procedure and reporting of emissions (Sjöblom and Niskala 1999). The Finnish Accounting Standards Board working under the Ministry of Trade and Industry gave its first recommendations (KILA 2003) concerning environmental information in annual reports. The recommendations are based on the Commission Recommendation on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies (Commission Recommendation, 2001/453/EC).

The following companies were selected for an analysis in the 1999 study. The companies and the years for their environmental reports were as follows: **Akzo Nobel** (1997), **Astra** (now Astra Zeneca, 1998), **The Esab Group** (1997), **Perstorp** (1998), **Stora Enso** (1998), **Tomra** (Annual report 1998) and **Volvo** (1998). All companies except Tomra had issued a stand-alone environmental report. Tomra presented a section on environmental reporting in their annual report. The reports analysed were mainly printed from the companies' websites.

The main purpose of the 1999 survey was to review sustainability issues in selected companies' environmental reporting. The study was part of the joint Nordic research project *Development, testing and implementation of environmental performance indicators in industry (NORDEPE)*. The NORDEPE project (Tulenheimo et al. 2000) focused particularly on sustainability indicators.

The environmental reports were analysed in the 1999 survey to identify the coverage of sustainability issues according to The Global Reporting Initiative guidelines (GRI 1999). These guidelines were developed for public comment and testing by the end of 1999 and the test period served as a laboratory for assembling examples and experiences of developing sustainability reporting guidelines. The NORDEPE project gave an input to the development of the guidelines. Both a subjective and a systematic method were used for scoring the reports in the 1999 survey. The systematic method noted by colours whether indicators according to the 1999 GRI guidelines were well covered by the report (green), referred to in the report, but no special interest (gray) or not mentioned in the report (red).

The results of the 1999 study concluded that the companies surveyed reported well on operational environmental performance but issues concerning economic impacts, social justice, environmental innovations, proficiency and product value chains were poorly dealt with. The study concluded that the draft GRI guidelines are comprehensive and difficult to implement in the reporting practices. The indicators presented in the draft guidelines were not always precise and it was not easy to interpret what really was meant by them. The results also indicate that there is no "ready-made recipe" for environmental reporting. Each company, depending on its sector and size, has to develop its own reporting framework. It is important that new ideas about environmental reporting can be developed. On the other hand, there is a problem comparing companies' environmental performance if no standardised and commonly accepted model for reporting exists.

The draft GRI guidelines have been improved and the third version of the guidelines was issued in August 2002. Improvements include development of social and economic indicators, requested inclusion of a cross-referenced table so readers can track content and compare reports more readily. In the press release (31 August 2002) from the GRI secretariat the

following is noted:" The 2002 *Guidelines* also introduce the concept of reporting "in accordance" with the *Guidelines*, which requires higher levels of transparency, coverage, and structure than informal reporting, thereby lending a higher level of credibility to a report. Recognising that one size does not fit all, GRI presents a range of reporting options to enable companies to gradually enhance the quality of their reports."

In June 2002 the latest environmental reports were requested from the companies mentioned above or the reports were printed from the web pages. This means that exactly three years had passed since the former study was performed. Trends should be visible in a three-year period. A subjective method describing the reports was used.

A complementary study of environmental reports of the companies for 2002 was performed to examine the influence of the GRI guidelines. Inclusions of GRI 2002 core indicators in the reports were analysed. For this purpose an evaluation tool partly based on a GRI content index table in the environmental reports of the Finnish companies **Kesko**, **Proventia Group** and **Wärtsilä** was created.

4.2 DEVELOPMENT AND TRENDS OF ENVIRONMENTAL REPORTING OF SEVEN NORDIC COMPANIES DURING 1999-2001

In this study the following environmental reports were analysed. The companies and the years for their environmental reports were as follows: **Akzo Nobel** (Environmental information 2000), **Astra Zeneca** (2001), **The Esab Group** (1999), **Perstorp** (2001), **Stora Enso** (2001), **Tomra** (Annual report 2001) and **Volvo** (Annual report 2001 and Environmental data 2001). Stand-alone environmental reports 2001 were issued by Astra Zeneca, Perstorp and Stora Enso and a clear comparison was possible in only those three cases. For the rest of the companies the most recent environmental reports were studied, information in the annual report or the most recent publicly available environmental information documents. The study was complemented by a visit to the companies' web pages.

The environmental documents representing most recent dates were compared company by company with the reports analysed in the 1999 study. Focus in the study is on reporting trends and details are therefore not always noted. The study addresses issues like the amount of information given and indicators referred to. All issues are not discussed systematically as clear changes are of highest interest.

Special focus in the 1999 study was on sustainability, especially social issues. Corporate social responsibility and the kind of words used for reporting on environmental, social and economic indicators are therefore paid special attention in this study. The economic aspects are mostly left out since they are part of annual reports and represent the economic area. Eco-efficiency indicators e.g. energy use or emissions versus net sales, on the other hand, give a lot of information on companies' environmental performance and they are therefore noted.

The web pages of the seven Nordic companies were studied as well. The survey of the web pages was performed in October 2002. The web pages were of interest since they tell a lot of the attitudes of the companies. Special attention was paid to ease of finding information. Furthermore good and bad examples of reporting on the web were of interest with regard to the need for a standardised reporting framework.

A subjective method was used in describing the reports. No systematic method was used similar to that in the 1999 survey since the GRI guidelines had developed and a similar scoring would not be comparable according to the new guidelines. Morhardt et al (2002)

studied a number of environmental reporting surveys. They converted the GRI guidelines and the indicators presented in the appendix of the ISO 14031 standard into a scoring system. They note that the scoring systems they studied evaluate corporate environmental reports based on the range of items discussed rather than on the quality of environmental performance. Companies have thus the potential to manipulate scores without increasing their environmental performance simply by adding topics and discussing them. A subjective descriptive survey can therefore give a more objective picture of the companies' reporting than scoring system based on points. This is especially true when scoring a low number of companies. The quality of a company's environmental report should reflect the quality of the environmental performance. The study results are presented in the following company by company followed by a summary of the results.

4.2.1 Akzo Nobel

Akzo Nobel (Akzo Nobel, website 2002) is a multinational concern active in three areas producing pharmaceuticals, coatings and chemicals. With headquarters in the Netherlands, the company has activities in 80 countries and employs over 67,000 people. Sales in 2001 were EUR 14.1 billion.

Akzo Nobel's most recent environmental report concerns the year 1999. Environmental reports 1996, 1997, 1998 and 1999 can be downloaded from the web. Furthermore *Environmental information 2000* is available. No environmental report has been issued for 2000 or 2001 and the environmental information 2000 report therefore formed the basis of the study. Since the report is a press release (no date given) on only two pages with tables on environmental performance data, the analysis was complemented with the study of the web pages. The report and the web pages have to be taken as a whole and the information provided forms a new concept where a brief concentrated report is complemented with information on the web.

Reasons why Akzo Nobel is no longer issuing a yearly environmental report are given in Frequently Asked Questions (FQA) on the web:

Why has Akzo Nobel stopped to produce a Corporate Environmental Report?

When we changed the way in which we report on our environmental performance, we also changed the style of reporting: The old Annual Environmental Report gave an overview on the status of a number of environmental parameters in the company. However, we did not always have a concrete program in place to manage those figures. Changes in the data were often related to acquisitions/divestments. This was changed with the new reporting system. The five corporate HSE parameters are tightly managed throughout the whole company. As we see them as a part of our overall performance, we decided that they should be included within our Annual Report. In addition, we will improve the topicality of our qualitative reporting by publishing news stories about our HSE performance on the internet throughout the whole year.

Reasons were also asked for in an e-mail to the headquarters in Arnhem in June 2002. The Corporate Communications responded with facts similar to those in FQA but underlined also that HSE (Health, Safety and Environment) is no longer seen as a separate activity, but as an integral part of the business.

The *Environmental information 2000* consists of a Press Release on two pages. Information is presented in tables and concerns environmental performance for 1999, 2000 and targets for 2005 in the following areas, which are the five HSE parameters of the company:

- Chemical oxygen demand (COD) of discharges to surface water (tons)
- Emission of organic compounds to air (tons)
- Non reusable waste (tons)
- Frequency rate (cost injuries per million hours worked) and a note on how it has improved and with group rates for year 2000
- Total illness absence rate (%)

The most apparent change in information provided concerns environmental performance. Information has decreased from the 1997 report where e.g. *Discharges to water* was covered by data on COD, N (total), P (total), Metals and Organic compounds (chlorinated and non-chlorinated). The 2000 report provides figures only on COD. As regards emissions to air, e.g. SO₂, NO_x and CO₂ are missing which is to regret since the figures would certainly be of great interest to stakeholders.

Links to environmental information are found from *Corporate citizen* on the main web page. Consequently one has to realise that environmental issues are part of Corporate citizen policies. Corporate citizen is divided into two areas which concerns *Health, Safety and Environment* where environmental issues are discussed and *Partners in Society* where corporate social responsibility (CSR) is briefly discussed. CSR aspects can also be found in the section on company information where business principles are presented.

Environmental information on the web is rather similar to the information given in the 1999 report but more text is provided. Information is therefore not so easily found as in the environmental report. One page is exposed at a time and downloading more information demands endurance. Information is complemented with interesting examples of more recent dates.

Surfing on the website shows that environmental figures for 2001 are found on the web. The two-page document 2000 on environmental information has however not been updated (October 2002).

Concluding this chapter one can say that Akzo Nobel has decreased the amount of environmental information. A full well compiled report is replaced by a brief press release on environmental performance. No clear picture on the environmental work of the company is given in the brief press release. Additional information is provided on the web, but the information is not systematically provided and it is therefore not so easily found. The most recent stand-alone environmental report is from 1999, environmental information 2000 is available as the most recent document on environment and one can find environmental data representing 2001 on the web. Akzo Nobel has taken a step towards CSR information, but this is not done in a clear way. For some of the stakeholders it is not perhaps obvious that the link "Corporate citizen" on the company's main page has anything to do with environment and one can therefore draw the conclusion that no environmental information is provided. Integrating environmental information in the business and introducing CSR aspects in the policy should not be done at the expense of the amount and clarity of environmental information provided.

4.2.2 AstraZeneca

AstraZeneca, a pharmaceutical company, was formed in April 1999 through the merger of Astra AB, Sweden, and Zeneca Group PLC, UK. AstraZeneca has its headquarters in UK, with R&D headquarters in Sweden. The company sells in over 100 countries and manufactures in 20 and has research centres in 5. The number of employees is 54,000 (2001).

AstraZeneca's report from 2001 was compared with the report from 1998, which represents Astra and not AstraZeneca. The most striking development in the company's reporting practices is seen in the headings of the reports. The former report is called *Environmental Report 1998* and the most recent one *AstraZeneca, Global Business, Global Responsibility, Corporate Social Responsibility Summary Report 2001*. AstraZeneca has thus taken a full step to CSR or sustainability reporting. Social aspects are not described in the 1998 report.

AstraZeneca defines the CSR concept (on the web) as follows: "Corporate social responsibility (CSR) is defined as all initiatives taken and efforts made by the Company to contribute to sustainable development". Consequently environment is part of the CSR policy.

In the 1998 report Astra declared that they strove to report the results of their environmental work in accordance with international recommendations for environmental reports, such as those issued by the United Nations Environment Program (UNEP). The GRI concept is used for the 2001 report and AstraZeneca is thus taken up on the GRI's list of *Companies using the GRI Sustainability Reporting Guidelines* (www.globalreporting.org/GRIGuidelines/Reporters.htm).

Social performance is handled in a systematic way in five chapters. Key data is provided for 2000 and 2001 with changes given in percentage. *Community investment* includes charitable, sponsorship and other initiatives. In the chapter *Safety*, information on accidents, e.g. number of accidents with injury, is provided. The chapter on *Health* informs on key data e.g. Number of occupational illness. A matter of interest in *Employee development, consultation and wellbeing* is the fact that the company endeavours to reduce stress at work and to help employees achieve a better work/life balance. The CSR summary report presents some case studies. One study includes the issue of stress at work and the WellBeing action plan. The management has estimated that every dollar invested in the programme generates four dollars in reduced sick leave and improved productivity. The last chapter discusses *Remuneration*.

Health, Safety and Environment (HSE) is still of the utmost importance in the most recent report. In the chapter on *Environmental performance*, as in the chapter on social performance, key data is presented for 2000 and 2001 and also the change in percentage. The following issues are briefly discussed: *Greenhouse gas emissions by source, Energy and global warming, VOC, CFC, Waste and recycling, Water use and discharges and Unplanned releases*. In comparison with the amount of environmental information provided in the 1998 report the information has clearly decreased.

It is worth noting that the 2001 report is a summary report. The 1998 report covered 40 pages whereas the 2001 report covers only 14 pages + page 0 (Introduction, scope, profile and contents) 6 of which are photographs or pages presenting a brief sentence. All information is thus provided on 9 pages. The company underlines that the summary report is designed to capture the main points of the 2001 performance and that more detailed information is available on the website.

The website (AstraZeneca, website 2002) is comprehensive covering a great number of pages. Issues that are of most interest are found on the web pages. Information provided is very comprehensive and one has to be familiar with the activity of the company and the medical area to be aware of missing issues. Information on animal testing is found on the web but is

missing in the summary report. On the web the issue is discussed under Corporate social responsibility/Our policies and principles/Care and use of animals. The heading is not visible until "Our policies and principles" is highlighted on the screen. One has to go through all headings to find all issues of interest, which is a time consuming exercise. Furthermore additional reports in pdf e.g. *AstraZeneca bioethics policy* on 13 pages, are available for downloading.

The report is well laid out and invites reading. Beautiful pictures are mixed with concentrated data. The headings are clear and the most important issues are found in the report. Comprehensive information on the web supplements the information provided in the summary report. One detail for improvement could be clear links from the summary report to the web. Exact Internet addresses in the report would facilitate the process of finding needed further data.

As a conclusion it can be noted that AstraZeneca has taken a full step towards sustainability or CSR reporting where environmental issues are only part of the CSR concept. AstraZeneca has issued a brief well done summary report and additional comprehensive information is found on the web. A full list of contents of all issues mentioned or a menu description where all links are visible would help find needed information.

4.2.3 ESAB

ESAB is a producer of welding consumables, equipment and cutting systems. The annual turnover (1999) was US\$ 900 million and the number of employees is nearly 8,000 worldwide. The headquarters is in Sweden.

ESAB has issued two environmental reports (October 2002), the first one *Environmental report 1997* and the most recent *Our path to sustainable development 1999*. Information in the 1999 report is supplemented by information on a CD enclosed in the report. The report from 1999 was studied, since no more recent information was available.

In the 1999 report, the company took a clear step towards sustainability reporting. ESAB informs that the company has participated in the pilot testing of guidelines for sustainability reports published by the Global Reporting Initiative (GRI) and that this report is prepared in accordance with the GRI guidelines. The emphasis in the 1999 report is on environmental issues although some information on social and economic issues is included as well. ESAB underlines that they have identified performance indicators that are important for the company in their work with life cycle assessments and in the dialogue with stakeholders. ESAB defines their key stakeholders as shareholders, customers, employees and the biosphere.

The approach in the 1997 report differs a lot from that in the 1999 report. A report on 27 pages has been concentrated to a report on 19 pages. The layout is much clearer and unnecessary text has been cut off. The most striking difference is however the sustainability view. ESAB's social policy focuses on human rights, diversified work force, competence, hazards related to production and use of products and on developing systems for monitoring social and ethical behaviour in the company. In the chapter on *Performance* environmental issues are in focus but both social aspects e.g. health and employee rights and economic aspects e.g. know-how and costs of waste to society are discussed as well. Health aspects (occupational injuries) are furthermore discussed in a brief *Health and safety* passage. On the CD supplementary information is provided e.g. the *Environmental guide* booklet, which all employees receive as part of the educational programme. Unfortunately the technical quality of the CD was not good enough for several uses and a deeper study of the CD was thus

prevented. Using a CD is faster than Internet, but that kind of permanent problem does not arise on Internet.

In an e-mail addressed to ESAB's headquarters in Sweden, the company was asked what was the reason for not issuing a more recent environmental report than the 1999 report. No answer was received.

A visit to ESAB's website (2002) was made to find the present environmental policies of the company. Information on the web is more thorough, but it resembles very much that in the environmental report and the CD. Even the environmental performance figures are for 1999. The web has not been updated with figures representing 2000 and 2001.

On the other hand some of the figures representing environmental effects were presented in a clear way. During the life cycle of a standard stick electrode, different types of emissions are generated. These figures can be seen by clicking on emissions to see how much is generated when welding one kilogram of weld material.

As a summary of ESAB's environmental reporting trends, it can be concluded that ESAB has taken a step towards sustainability reporting and includes, besides environmental information, discussion on social and economical issues. There is however a problem in describing the reporting trends up to 2001 since ESAB has only issued two reports of which the most recent is the 1999 report.

4.2.4 Perstorp

Perstorp AB is part of Sydsvenska Kemi AB, as is Neste Oxo AB. The Group's areas are in specialized chemical markets. The products are mainly sold to companies in paint, chemicals and plastic-based industries. They also include products for the engineering and construction industries. Perstorp and Neste Oxo have combined annual sales of approximately SEK 6 billion, with 2,200 employees. Production is carried out in 8 countries in Europe, North America and Asia. The Group's operations were integrated during 2001 and since the beginning of 2002 the operational activities were conducted under one name, Perstorp. (Perstorp, website 2002).

The environmental reports of the company from 1998 and 2001 were compared. The reports are very similar although the Perstorp Group has undergone radical changes during those three years. The number of employees, for example, has dropped from 6,000 (1998) to 2,600 (2001). Layout and contents of the reports are alike, e.g. information concerning environmental performance is provided in the same way.

Perstorp's environmental reports are drawn up systematically with clear headings. Different items are easy to find in the report. Sometimes there is very little text on a page but this makes it easier for the reader to absorb the text. On the other hand this clear layout makes the reports 47 pages (1998) and 41 (2001) thick.

The information is comprehensive and very clear. Graphs illustrate the data. The only criticism concerns small details e.g. that a lot of colours are used in the graphs, which reduces readability. To study a great number of figures on the screen is not so easy and a printable version in grey scale does not distinguish between the colours. Especially when it comes to small sectors presented, it is almost impossible to find out the numbers. On the other hand all needed information is available and can be found. Communication with stakeholders is underlined and Perstorp provides clear information, e.g. on accidents.

Perstorp has changed the concept of S.H.E (Safety, Health and Environment) to that of EHS (Environment, Health and Safety). No explanation is given in the 2001 report. There are also other changes representing small details. Environment, health and safety are priority areas in both reports. In the 2001 report the CEO mentions that the company aims for sustainable development and explains "*For us, sustainable development means working continuously, always considering the best way to protect our employees and the environment*".

A visit to the websites shows that environmental issues are prioritised. The *Environment* link is available on the main page and information is thus easily found. *Environmental Reports* link is visible on the main Environment page. Annual reports are available from 1994 to 2001. Information on the web is not as comprehensive as the environmental report and presents among other things EHS policy and objectives.

Concluding this section one can say that Perstorp has chosen to keep its clear focus on environmental issues. Information is thorough and well presented. Health and safety aspects are also important and they are consequently also reported.

4.2.5 Stora Enso

Stora Enso is an integrated forest company producing magazine papers, newsprint, fine papers, packaging boards and wood products. In 2001 Stora Enso had sales of EUR 13.5 billion. The company employs some 43,000 persons in more than 40 countries. Stora Enso's shares are listed in Helsinki, New York and Stockholm. The Group was formed through a merger of Finnish Enso and Swedish STORA at the end of 1998.

Environmental reports compared are *Environmental Report 1998* (39 pages) and *Environment and resources 2001* (34 pages) (Stora Enso 2002a). The 1998 report is the first produced by Stora Enso only a few months after the formation of the Group. Stora Enso's Environmental and social responsibility policy was published in April 1999. In the 2001 report the Principles for Corporate Social Responsibility were formulated to complement the policies and values.

No radical changes concerning the reporting practices have occurred during those three years. The reports are well done. Sustainability issues were already discussed in the 1998 report e.g. in the word from CEO. Environmental issues are clearly and thoroughly presented in the chapter *Environmental performance 2001*. The issues, which are almost exactly the same as in 1998, are *Management, Environmental investment and annual costs, Fibre procurement, Recycling & recovery, Energy and Transports*. Some of the headings are slightly formulated in a different way e.g. "Fibre procurement" (2001) instead of "Wood procurement" (1998). Information on discharges to water and air is included in both reports but not mentioned in the contents. Information is found under the heading *Resource utilisation and environmental performance* (2001). Tables and clear graphs where development from 1997 to 2001 is seen are provided. Further information on environmental performance is given site by site. Especially worth noting is an open approach to complaints about a few of the sites and information on corrective measures. Both reports include an *Examination report* where authorized public accountants examined the financial information and some defined environmental information presented in the report.

Stora Enso's website (2002) is clear and the link "Environment" is visibly presented on the main page. The main environment page includes a series of press releases, which concern e.g. awards gained by the company. Certification, policies, publications, resources, EMAS reports and statistics are found as well. The company has introduced an innovative Web Reports 2001

minisite, which has been adjudged the Best Investor Relations Website in the 2002 WebAward Competition in New York. The Stora Enso 2001 minisite (www.storaenso.com/2001) contains the Annual and Environmental Reports. Different media elements, such as sound, animation and video are utilised. The user can for instance view a flash animation of how a paper machine functions. Stora Enso has also been awarded the Best Investor Relations Web Site prize by Investor Relations Magazine in its Nordic Awards 2002. The site was praised for ease of navigation and the amount of financial and environmental information. More than two hundred respondents participated in this year's survey.

Stora Enso achieved third place in the Finnish annual comparison of reports on environmental and corporate social responsibility for 2001. Stora Enso's corporate communications were praised, especially for clarity and the emphasis on social aspects. In the competition for the best EMAS report, Stora Enso's Oulu Mill and Hartmann Varkaus were awarded the same top number of points and so shared first place. Stora Enso has been selected for inclusion in the Dow Jones Sustainability Indexes and in Portfolio 21. FTSE has included Stora Enso in the FTSE4Good index series for socially responsible investors.

This chapter concludes that Stora Enso has continued to focus on sustainability where the environmental part is strongly emphasised. Stora Enso has also chosen to keep the well done concept of reporting with only some small changes mostly concerning choice of words. The company has gone for issuing clear websites and a minisite containing the same information as the printed reports. An experiment on different media elements, such as sound, animation and video is made. Navigating to the minisite, however, is not very clear. Animations of e.g. how a paper machine functions are interesting and are informative for younger pupils but probably too time consuming to study for ordinary stakeholders.

4.2.6 Tomra

Tomra is a manufacturer and supplier of so-called reverse vending machines, which are used for collecting and identifying used beverage containers for recycling or reuse from consumers, who in return receive a monetary refund. Tomra started its business back in 1972 and pioneered the technology for these advanced machines. Tomra is a multinational corporation with machine installations in 40 countries round the world. The number of employees is 1,537 (2001). Tomra is listed on all major sustainability ratings and indexes, including Dow Jones, Portfolio 21 and FTSE4Good. Tomra states that its mission is "Helping the World Recycle."

Tomra's reports *Environmental Report* (1998) and *Corporate Social Responsibility Report 2001* are compared. The reports are no stand-alone environmental reports but they are included in the annual reports for the year. In FQA (frequently asked questions) on its website Tomra gives a reason for this as follows:

Environmental and social issues are integrated into our annual reports because Tomra believes that this signals to all stakeholder groups that Tomra regards environmental and social issues as an integrated part of our operations.

Environmental issues, especially recycling, are discussed in several parts of the annual reports, but this analysis concentrates only on the pages which are explicitly the environmental report. Tomra defines its environmental report 2001 on the website by a link "Environmental reporting" to the report. In the annual report, a header *Corporate Social Responsibility Report 2001* appears on each page where a heading referring to the environmental report is printed.

Tomra uses different expressions for the same report. A printed copy of the environmental report was requested from Tomra's office in Finland. The annual report was sent and the office worker had marked only the pages that concerned Environmental performance and not all *Corporate Social Responsibility Report 2001* as the environmental report. There is obviously some confusion on what is regarded as the environmental report and what is not.

The 1998 report consists of 3 pages where environmental management, policy, audits and programs are discussed. Performance data concerns only the Asger site in Norway and figures on energy use and water consumption are provided as well as data on waste for the site. In those three years Tomra has developed the environmental work and reporting practices. The environmental section is 16 pages in the 2001 annual report. Tomra has presented a corporate social responsibility (CSR) policy for the first time in the 2000 report. Tomra declares that its triple-bottom line consists of financial, environmental and social indicators. Tomra informs that the report is influenced by several sustainability reporting initiatives like those of GRI, UNEP and WBCSD but Tomra does not claim full coherence to either.

Tomra presents the triple-bottom line indicators in absolute figures and for environmental and financial performance also as eco-efficiency indicators. The environmental profile concerns energy use (GWh), Carbon dioxide emissions (t), water consumption (cubic meters) and waste generation (t) and indirect impacts e.g. total number of containers collected. The social profile consists of number of employees, female employees (%), ethnic minority employees (%) and number of reportable injuries.

In order to make sense of environmental impact Tomra finds it important to relate the impacts to the value that is created and does this using eco-efficiency indicators. Eco-efficiency indicators are obtained by calculating environmental impact per unit of resulting financial value created. Exactly what is meant by "value added" is somewhat unclear. Tomra follows the generally accepted indicators for eco-efficiency developed by the WBCSD. For the first time Tomra presents year to year performance trends for the entire Tomra group.

Tomra's website (2002) is clear. On the main page a link to Quality/Environment is found. The information on the main environmental page is also clear and links to CSR policy, Key figures, Environmental objectives, Environmental management, Environmental reporting, Stakeholder relations, Sustainability analyst, FAQ, Container recycling process and Contact are available. In the text further links are found to useful web pages of e.g. organisations.

Concluding this section one can say that Tomra has taken a large step towards more complete environmental reporting. Tomra has chosen to integrate environmental issues in the annual report. A small chapter like that one on three pages in the 1998 report can be acceptable, but a more comprehensive chapter on 16 pages would have gained by being a stand-alone report. Though the 2001 report is called a CSR report and Tomra has moved to sustainability reporting clear environment links are found on the main web pages. This is welcomed since one can assume that all stakeholders are not familiar with the CSR, triple-bottom line or sustainability concepts.

4.2.7 Volvo

Volvo is a multinational company specializing in commercial vehicles and transport equipment. Founded in 1927, Volvo today (Volvo, website 2002) has 71,768 employees, production in 25 countries and operates in more than 185 markets. The Volvo Group's total sales amounted to SEK 181 billion in 2001. Volvo is listed on the Portfolio 21 company list.

Volvo's *Environmental report 1998* is compared with environmental information provided for 2001. Volvo issued an environmental report 2000 but no stand-alone report for 2001 is provided. Environmental information is included in the Annual Report 2001 and is headed *Volvo in society*. The information is supplemented with *Environmental data 2001*, a separate report available on Internet. Volvo has issued environmental data for 1999, 2000 and 2001 though full environmental reports were issued in 1999 and 2000. *Environmental policy* is a separate report and environmental policy is thus not included in the reports mentioned above. The amount of environmental information has thus decreased.

The 1998 report is comprehensive (23 pages) and very ambitious and tells the reader about many environmental projects and programmes. The report is crammed with technical facts. A compact text is supplied with graphs in the margins. The report focuses strongly on the environmental impact of the product. This is perhaps understandable because life cycle analyses at Volvo have shown that 90% of the impacts generated by vehicles occur during the operation. Thus Volvo pays attention to e.g. fuel consumption and alternative fuels.

Volvo in society (4 pages) focuses also on the car in use. The report is rather chatty and gives very little information. In this report also some graphs are presented in the margins, but what they exactly refer to is somewhat unclear. No explanatory texts are provided. The supplementary report *Environmental data 2001* consists of concentrated environmental information on 2 pages and graphs on 1 page. The rest of the report is a table on environmental performance per site.

Volvo mentions that it has signed the UN Initiative Global Compact in November 2001. A summary on Global Compact is provided in a text box in the margin. Human rights, Labour and Environment are discussed. Sustainability issues are thus briefly mentioned in Volvo's 2001 report.

Volvo's main web page does not show links to environment. *Quality, Safety, Environment* is found by clicking on *The Volvo Group*. The environment pages provide information on e.g. environmental management, history, sustainable development and some reports e.g. *Climate change and air quality* and *Environmental product declaration from Volvo Trucks* in pdf-versions can be downloaded. Volvo informs that they have published environmental reports since 1990 but from March 2002 summarised environmental and social information will be included in the Annual report. The website will be continuously updated, where new data is published when available.

Concluding the section on Volvo one can say that Volvo has taken a step backwards when it comes to environmental reporting. Volvo makes some slight attempts to include CSR issues in the report but has in no way taken a clear step towards sustainability reporting. The environmental report is included in the annual report and no stand-alone environmental report is provided for 2001. A lot of information is however provided on the web pages but the information is found on different pages and in various pdf reports and is thus not easily accessible. Surfing from one page to another is time consuming due to a lot of fine photographs on the pages. Downloading pdf-files is also time consuming.

4.2.8 RESULTS OF THE STUDY ON DEVELOPMENT AND TRENDS OF ENVIRONMENTAL REPORTING OF THE SEVEN NORDIC COMPANIES DURING 1999-2001

Seven Nordic companies were surveyed to find environmental reporting trends. Environmental reports available in June 1999 were compared with environmental reports or environmental information available in June 2002. The study was complemented by a visit to the companies' web sites to see how environmental information was given in that medium. The reports or environmental information available which have been studied and compared are presented in Table 4.2.

Table 4.2. Environmental reports or environmental information of seven Nordic companies available in June 1999 and June 2001.

Company	Reports available in June 1999	Pages	Reports available in June 2002	Pages	Change (%)
Akzo Nobel	Environmental report 1997 (Environmental report 1998 available in autumn 1999, not studied)	16	Environmental information 2000, press release	2	- 88
AstraZeneca	Environmental report 1998	40	Corporate Social Responsibility Summary Report 2001	13	- 68
Esab	Environmental report 1997	27	Our path to sustainable development/1999	19 + CD	- 30
Perstorp	Environmental report 1998	47	Environmental report 2001	41	- 13
Stora Enso	Environmental Report 1998	38	Environment and resources 2001	34	- 11
Tomra	Environmental information in the Annual report 1998	3	Corporate social responsibility report 2001 in the Annual report 2001	15	+ 400
Volvo	Environmental report 1998	23	"Volvo in society" environmental information in the Annual report 2001. Environmental data 2001	4 + 14	- 22
All companies	4 stand-alone environmental reports 1998 available in June 1999 (5 in autumn 1999)	194	3 stand-alone environmental reports 2001 available in June 2001. (3 in October 2002)	142	- 27

It was assumed that every company had issued an environmental report in 2001. This was however not the case, as shown in Table 4.2. Only 3 companies had chosen to issue a stand-alone environmental report in 2001. Two companies provided environmental information in the annual report and two companies had chosen another way of providing information. Reasons mentioned for not issuing a stand-alone environmental report were e.g. lack of a concrete programme to manage environmental parameters and that environment is no longer seen as a separate activity and is thus considered as an integral part of the business.

Another clear trend seen is the decrease in the amount of environmental information provided, measured in number of pages. The total number of pages concerning the seven companies surveyed has decreased during the period from 194 to 142, that is by ca 27 %. Information

can be given in a more concentrated or more efficient way and therefore the number of pages is not a reliable parameter for small changes. A reduction of about 27 % is so significant that it cannot be neglected or only explained by a more efficient way of reporting. The number shows that a reduction has occurred. The study of the companies' environmental reporting trends correlates to the figures presented. The environmental information in the reports of Akzo Nobel and AstraZeneca has clearly decreased and both those companies show a large percentage decrease in the number of pages. This holds also for Volvo (-22 %). On the other hand the number of pages of the reports of Perstorp has only decreased by 13 % which obviously is due to a more concentrated reporting. No clear changes in the reports of Perstorp can be seen. The reporting of Stora Enso is also on the same level regardless of a reduction of 11 %. ESAB (-30 %) is more difficult to analyse since the company had only issued a report in 1999 and no later one, the web page was not properly updated and no answer to an e-mail letter requesting reasons for the absence of a more recent report was given.

It is hard to say if the information in the reports is supplemented by information on the websites so that the level of information provided is retained. Web pages from 1999 are not available any longer and a comparative study could not be performed. Web pages can be updated and changes can happen very quickly. On the other hand the study showed that not all information was updated. For example Akzo Nobel issued a press release on environmental performance for 2000 and none for 2001 though needed information concerning 2001 was found on the web sites. Reasons for this were not found.

When it comes to informing on environmental performance no radical changes could be seen. Energy use, waste, discharges to water and air were still at the top of the list. Attention was also paid to transport, raw materials and environmental impact of the product, and of course environmental management. Eco-efficiency was underlined also. Relating impacts to value created is important. Companies informed e.g. on waste created as tonnes/net sales. Tomra on the other hand informed e.g. on tonnes/ value added without clearly explaining what is really meant by value added. Eco-efficiency values are welcomed since they can more clearly show environmental performance trends and make comparisons between companies easier. The results partly correspond to those of Jones (2000) who for the European Commission performed a survey of 88 companies which all produced an environmental report. She identifies a number of top indicators for disclosure in annual/financial reports and highlights the following ones: Air emissions, waste, material/resource consumption, wastewater, energy efficiency, recycling, environmental targets, environmental legislation, compliance, environmental expenditure EMS standards (Environmental Management System standards), product emissions/performance and environmental policy.

The study shows a clear trend towards sustainability reporting, which e.g. the titles of the reports underline. The companies use expressions like triple-bottom, corporate social responsibility and sustainable development. In all cases these probably refer to environment, economic and social aspects, but what is really meant on a practical level by the various terms used is somewhat unclear.

Many of the chemical companies are committed to the Responsible Care programme which is the chemical industry's commitment to continual improvement of health, safety and environmental (HS&E) performance. Perstorp is one of those companies and chooses to use the abbreviation S.H.E. for Safety, Health and Environment in the 1998 report but changes it to EHS (Environment, Health and Safety) in the 2001 report. This shows that well known concepts can be handled in different ways, which is somewhat confusing to ordinary readers. And when it comes to fundamental concepts like those concerning sustainable development, terms should be standardised, defined and commonly agreed on to make sense of what we are talking about.

Though environment is one pillar in the sustainable development concept it should be handled separately. The study shows that there is some evidence to say that sustainable development issues have come into fashion. This has led in some cases to less reporting on environmental indicators in favour of more vague social ones. In these cases exact reporting has diminished. On the other hand e.g. safety and health aspects have been transferred from the environmental area to the social one. In these cases it is only a matter of changing definitions and juggling with words. Reporting is almost on the same level as before.

Niskanen and Nieminen (2001) examined the objectivity of Finnish listed companies' environmental reporting in their ordinary annual reports. The data covered the period 1985-1996. They concluded that the reports could not be objective since the proportional share of negative events reported in annual reports was much smaller than the respective percentage of positive events and did not correlate to what was written in the media. The first negative event was reported in 1992. Their results indicate a risk that environmental reports are not objective, a fact that also underlines the importance of a standardised framework for reporting.

Line et al (2002) note in their analyses of the 2001 Benchmark Survey (CSR network 2001) that although sustainability reporting has grown out of environmental reporting, one of the weaker areas identified by the survey was the disclosure of global environmental performance data which is the core of traditional environmental reporting. The 2001 Benchmark Survey details the environmental and social reporting practices of the 100 largest firms listed in Fortune magazine's Global 500.

Reporting on social issues is a clear trend shown in the study. Companies say that they are committed to sustainable development but reporting on social indicators is somewhat vague. It seems that finding precise indicators to report on is not easy. Examples of social indicators found in the reports are *Cost injuries per million hours worked*, *Total illness absence*, *Employee development* and *Well being*, *Occupational injuries*, *Employee rights*, *Female or ethnic minority employees* in percentage and *Number of reportable injuries*.

Studies of the websites indicate that the companies are willing to report on environment. A lot of text is provided but specific information is not always easy to find. There is no standardised way of reporting. Most of the companies have a clear link to environment on the main page, but not all. To find environmental information on some of the main pages one had to realize that environment is part of "Corporate citizen", "Sustainable development" or that information is provided under e.g. "Volvo group". See Table 4.3.

Table 4.3. Environment link on the main web pages of the companies studied (2002).

Company	Environment link on the main web page
Akzo Nobel	Corporate citizen
AstraZeneca	About us/Corporate social responsibility
Esab	Sustainable development
Perstorp	Environment
Stora Enso	Environment
Tomra	"Quality / Environment"
Volvo	The Volvo Group / Quality Safety Environment

The study shows a trend of compensating for environmental reporting by rather comprehensive information on the web. The web is a good medium for supplemental information, but information has to be systematically presented. The medium can be

successfully used as Stora Enso does by providing a minisite where different media elements are used such as sound, animation and video.

The main findings in the study on environmental reporting trends in seven Nordic companies are summarised in section 4.4. Some recommendations based on the study results are also presented.

4.3 GLOBAL REPORTING INITIATIVE TRENDS IN ENVIRONMENTAL REPORTS 2002 OF SEVEN NORDIC COMPANIES

The Global Reporting Initiative (GRI) guidelines have gained the status of an unofficial standard for environmental reporting (see chapter 2.3.4). Environmental reports 2002 of the seven Nordic companies Akzo Nobel, AstraZeneca, ESAB, Perstorp Stora Enso, Tomra and Volvo are studied to find to what extent the influence of the GRI guidelines can be seen in the reports. Only stand-alone reports are studied. This is done by the aid of a GRI content index table, that is a table showing an evaluation of the inclusion of the indicators recommended by GRI in the environmental reports. For that purpose the GRI content index tables of Kesko (2003), Proventia Group (2002) and Wärtsilä (2002) are studied in more detail to extract a suitable tool for the evaluation of the reports of the seven Nordic companies.

4.3.1 GRI CONTENT INDEX TABLE AS AN EVALUATION TOOL

The Finnish contest for environmental and social responsibility reporting, where reports from 2002 are evaluated (Ympäristö ja yhteiskuntavastuuraaportoinnin kilpailu 2003) notes especially reporting according to the GRI standard in their evaluation of environmental reports. The contest evaluation report notes that a few companies present "an exact comparison to the GRI recommendations" (p. 5). Three of the winners presenting the GRI coherence by a GRI contents index table are Kesko, Proventia Group and Wärtsilä.

The indicators in the GRI content index tables of the companies are not identical with those suggested by GRI. The companies have summarised the indicators according to their own needs and thus, in a sense, created new indicators. Consequently the tables by the three companies are not identical.

Kesko received an award as the second best company for overall reporting where all media is considered. Wärtsilä received an award for the best stand-alone environmental report. The contest committee noted especially that the report fulfils almost all the demands of GRI. Proventia Group won the series for SMEs. Assurance statements of Kesko's and Wärtsilä's reports are made and included in the environmental reports. Since those three companies can be considered as Finnish reporting forerunners issuing high quality reports, their declaration that the reports are based on the GRI content index table in accordance with the GRI recommendations is studied.

Since the content index tables of the companies are not identical they are studied to see if a synthesis of their tables could be found for evaluating the GRI influence on the seven Nordic companies and thus other companies. The indicator list of GRI is comprehensive and is therefore not suitable as an easy tool for evaluating the GRI inclusions in the reports. The study is performed to get an overall picture of the inclusion of the GRI indicators so that

environmental performance indicators receive most attention and the others less. The indicators are not studied in detail.

4.3.1.1 GRI CONTENT INDEX TABLES BY KESKO, PROVENTIA GROUP AND WÄRTSILÄ

The study of the GRI content index tables by Kesko, Proventia Group and Wärtsilä was performed by comparing the list of indicators suggested by GRI with the list of indicators and their coverage in the table of the GRI content index by the indicators suggested by the three Finnish companies. The GRI indicators are quoted from the GRI 2002 guidelines and they are compared with the companies' description of the same indicators. Notes by the companies are also presented. If the company uses exactly the same wording as GRI, this is noted by "Identical". The study is focused on GRI core indicators. The results can be seen in Appendix 5. The table shows the companies' descriptions of the indicators and how they have summarised the indicators and the headings for the new indicators.

4.3.1.2 SUSTAINABILITY INDICATORS PRESENTED IN THE GRI CONTENT INDEX TABLES BY THE FINNISH COMPANIES STUDIED

One striking result of the survey of the GRI content index tables of Kesko, Proventia Group and Wärtsilä shows that it is only in a few cases that the companies choose to use the exact wording of GRI for describing an indicator. This is however understandable since the GRI titles are rather comprehensive and need to be made shorter if one wants to achieve a concentrated table. Three of the GRI indicators (LA1, HR6 and PR1) are described by over 40 words and most of the Indicators by more than 20 words. Explanation of GRI indexes are found in Appendix 5. Proventia Group and Wärtsilä manage to present the whole GRI content index table in one page, while Kesko needs three pages for the same presentation. The issues are indexed in the companies' tables as by the GRI guidelines, which makes comparison easier and clearer.

Only three indicator headings are exactly identically expressed by the three companies as by GRI and they are "1 Vision and Strategy", "Report Scope" and "3 Governance structure and management systems". Out of 95 indicators only three indicators are expressed exactly as by GRI and they are "EC1: Net sales", "EC2: Geographic breakdown of markets" and "EN8: Greenhouse gas emission", which makes 3 %. A few of the indicators can be regarded as almost identical like "3.8 Mechanisms for shareholders to provide recommendations or direction to the board of directors" which is written by Proventia Group and Wärtsilä as "Mechanisms for shareholders to provide recommendations" and by Kesko as "Mechanisms for shareholders to provide recommendations or opinions". This makes the statistics slightly better but the number is still approximated to be less than 10 %, which shows that the indicators are not very well described by the parties involved.

The companies do not describe every indicator suggested by GRI but choose to summarise them according to their own needs. For example the Report Scope indicators are indexed by 2.10 to 2.22. Proventia Group summarises 2.11-2.2. Kesko summarises 2.13-2.16 and 2.20-2.21 but Wärtsilä summarises only 2.10-2.11 and reports on 2.13 and 2.15 as the same indicator. The purpose of the GRI content index tables according to Proventia Group is to "enable the comparison of the performance of different companies and to give a fair picture in relation to other reporting organisations" (p. 29). Even if the information provided by the

three companies is presented in a table as in Appendix 5, a comparison is still very difficult to perform. Since one cannot expect an ordinary reader to prepare a table, comparison thus has to be based on the environmental reports and the GRI content index tables presented in the reports. This exercise is not easily performed and few stakeholders are able to find the time needed or even enthusiasm enough to make the comparison.

4.3.1.3 THE COMPANIES' INTERPRETATION OF THE INDICATORS

There seem to be significant differences in the interpretation of indicators. Table 4.4 presents some examples of environmental performance indicators. The table shows that readers who study a company's sustainability work by only reading the GRI content index tables, run the risk of interpreting information differently. The following shows some examples.

GRI defines the indicators EN1, EN10, EN11 and EN12 by type but the companies ignore this detail in the tables. This is especially alarming when it comes to waste (EN11). GRI explains EN11 (Total amount of waste by type and destination) as follows:

"Destination refers to the method by which waste is treated, including composting, reuse, recycling, recovery, incineration or landfilling. Explain type of classification method and estimation method."

The Landfill Directive which was adopted in 1999 (Council Directive 1999/31/EC) specifies three main classes of landfills:

- Landfills for hazardous waste
- Landfills for non-hazardous waste
- Landfill for inert waste

Though the directive came into force only on 16 July 2004 (COM(2002) 512) and the Member States shall apply the Directive by 16 July 2005 at the latest, it clearly indicates that classifying waste is of importance. Waste should be classified at least into hazardous and non-hazardous waste. The cost of the treatments varies by type and information is important from both the environmental and economic points of view and should be indicated in the table.

The companies anyhow do classify waste, which can be studied in their reports, but they practise different and thus non-comparable classifications. Kesko classifies waste into organic waste, energy waste, wood waste, mixed waste, metal, film plastic, corrugated board, paper and gives the amount of total waste. Furthermore they present figures for recoverable and reusable packaging sent back to Kesko. Proventia Group presents figures for waste for landfill and waste for recycling, but no details are given of the kind of waste and how it is calculated. It would have been of interest to get an example of how this is handled by a consulting company. For example, how is waste from the office calculated? Wärtsilä classifies waste into hazardous waste for incineration, hazardous waste for recycling, hazardous waste for landfills, waste for incineration, waste for recycling and waste for landfills and presents a waste index. It is not easy to compare "Total amount of waste by type and destination" of these three companies, especially not on the basis of the GRI content index table.

The presentations of the GRI content index tables by the companies become even more confusing in EN9 "Use and emissions of ozone-depleting substances" (GRI). Proventia Group and Wärtsilä summarise the indicator as "Ozone-depleting substances" which can mean use or emissions or both. Kesko on the other hand just writes "Ozone" which is not the same as "Ozone depleting substances".

Table 4.4. Examples on how Kesko, Proventia Group, and Wärtsilä present some environmental indicators in the GRI content index tables in their environmental reports. See Appendix 5.

Global Reporting Initiative (GRI)	Proventia Group	Coverage	Kesko	Coverage	Wärtsilä	Coverage
EN1	Total materials use other than water, by type	- Note 2	Total material use	+	Total material use	(+) Note 3
EN2	Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation	- Note 2	Use of waste from external sources	- Note 10	Percentage of waste materials used	- Note 4
EN3	Direct energy use segmented by primary sources	+	EN3+EN4: Direct and indirect energy use	+	EN3+EN4: Direct and indirect energy use	+
EN4	Indirect energy use					
EN9	Use and emissions of ozone-depleting substances	- Note 4	Ozone-depleting substances	+	Ozone-depleting substances	+
EN10	NO _x , SO _x , and other significant air emissions by type	(+)	Acidification	+	NO _x , SO _x and other emissions to the air	+
EN11	Total amount of waste by type and destination	+	Waste	(+)	Total amount of waste	+
EN12	Significant discharges to water by type	- Note 4	Discharges to water	+	Significant discharges to water	+
EN13	Significant spills of chemicals, oils, and fuels in terms of total number and total volume	+	Spills of chemicals, oils, etc.	- Note 12	Significant spills	+
EN14	Significant environmental impacts of products and services	(+)	Environmental impacts of products	- Note 13	Environmental impacts of products and services	+
EN15	Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed	- Note 2	Reclaimable products after useful life	- Note 14	Reclaimable products after useful life	+
Notes inserted for the companies						
<u>Proventia Group</u>		<u>Kesko</u>		<u>Wärtsilä</u>		
The GRI item covered in the report: +		Included in the report: +		The GRI item covered in the report: +		
The GRI item partly covered in the report: (+)		Partly included in the report: (+)		The GRI item partly covered in the report: (+)		
The GRI item not covered in the report: -		Not included in the report: -		The GRI item not covered in the report: -		
Note 2: Information not available		Kesko has noted Shortcomings/deviations in their table on comparison to GRI. Here are only comments where the issue is not included in the report noted and numbered as follows:		Note 3: Information not available at corporate level, except fuel consumption		
Note 4: Not applicable		Note 10: A trading company does not use recycled waste in the way referred to by GRI		Note 4: Information not available at corporate level, recycled materials are used in engine and propeller components		
Partly covered: EC: major market areas mentioned; EN8, EN10: include only emissions from test-drivers with catalysis; EN14: environmental impacts of products and services are described as examples in product performance section.		Note 12: Minor connection to Kesko's operation				
		Note 13: Being a trading company, Kesko produces no products				
		Note 14: Kesko participates in recovery systems, but the information referred to by GRI applies to manufacturers				

While at the stratospheric level ozone provides a shield against the sun's ultraviolet radiation at tropospheric level (ground level) ozone is a secondary pollutant harmful to both human health and ecosystems. Ozone-depleting substances are substances which, when released, are carried to the stratosphere where the ultraviolet radiation from the sun causes them to break down into particles that react with ozone and thus damage the ozone layer.

Under EN9, Wärtsilä refers to pages in the report where further information should be found. Air emissions are mentioned on these pages, but there is no explanation as to which of these could probably be ozone depleting. Total amounts of VOC, NO_x, SO₂, CO₂ and particulate emissions are presented while ozone depleting substances according to the Montreal Protocol (UNEP 2000) are not mentioned. Ground level ozone is created by a chemical reaction between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of heat and sunlight. Here is obviously a clear misunderstanding in Wärtsilä reporting emissions needed for creation of ground level ozone and not emissions of ozone depleting substances.

Kesko is clearly referring to ground level ozone in their GRI content index table and does so in the report presenting "Ozone in lower atmosphere, tn C₂H₂ eq". GRI defines the EN9 indicator clearly "Report each figure separately in accordance with Montreal Protocol Annexes A, B, C and E in tonnes of CFC-11 equivalents (ozone-depleting potential)." If Kesko chooses to present a "Comparison of the report with guidelines of the Global Reporting Initiative" it should be done according to GRI's definitions.

Proventia Group as a consulting company notes that this indicator is "Not applicable".

The GRI indicator EN10 "NO_x, SO_x, and other significant air emissions by type" is defined as follows:

Include emissions of substances regulated under:

- local laws and regulations
- Stockholm POP Convention (Annex A, B and C) - persistent organic pollutants
- Rotterdam Convention on Prior Informed Consent (PIC)
- Helsinki, Sofia, and Geneva Protocols to the convention on Long-Range Trans-boundary Air Pollution.

The Geneva protocol deals with VOC, The Helsinki protocol with sulphur emissions, the Sofia protocol with emissions of Nitrogen Oxides, Rotterdam Convention with hazardous chemicals and pesticides.

The EN10 indicator is defined by Kesko as "Acidification", which covers only part of the emissions defined and thus cannot be regarded as identical with GRI's definition. Kesko presents figures on "tn SO₂ eq". Proventia Group presents Emissions to air (NO_x, CO, CO₂, SO₂ and VOC). Not one of the companies discusses POPs. Proventia Group notes that the indicator is only partly covered, but both Kesko and Wärtsilä regard the indicator EN10 to be fully covered.

4.3.1.4 RESULTS OF THE STUDY OF THE GRI CONTENT INDEX TABLES OF KESKO, PROVENTIA GROUP AND WÄRTSILÄ

The GRI content index tables of Kesko, Proventia Group and Wärtsilä were studied to find an evaluation tool for identifying GRI influence in environmental reports. The results show the following:

- To describe the GRI indicators, it is only in few cases (3 %) that the companies use the exact wording of GRI. This can be explained by the fact that GRI uses long sentences of up to 40 words in describing the indicator.
- The companies do not proceed from indicator to indicator suggested by GRI, but summarise them according to their own needs and in a sense thus create new indicators which are not exactly the same as those by GRI.
- Some examples of the companies' interpretation of environmental indicators show a difference from that of GRI. GRI e.g. suggests reporting "by type", which is ignored in the table by the companies. GRI talks about ozone-depleting substances whereas two of the companies report emissions needed for creation of ground level ozone and not emissions of ozone depleting substances. The definition by GRI is not followed.
- An evaluation tool, a GRI content index table, based on the tables presented by Kesko, Proventia Group and Wärtsilä can be extracted for the purpose of the study from the environmental reports of the seven Nordic companies. It will be a compromise between the tables suggested by the companies. Since there seems to be confusion concerning the environmental performance indicators and they are of highest interest in this thesis, the same indicators as suggested by GRI should be chosen for the evaluation tool. The evaluation tool can be seen in Appendix 6.

4.3.1.5 AN EVALUATION TOOL FOR STUDYING INCLUSIONS OF GRI INDICATORS IN ENVIRONMENTAL REPORTS

The seven Nordic companies Akzo Nobel, AstraZeneca, ESAB, Perstorp Stora Enso, Tomra and Volvo are studied to find to what extent the influence of the GRI guidelines can be seen in the stand-alone 2002 environmental reports of the companies. This dissertation is focused on stand-alone environmental reports.

The study is carried out by studying the inclusion of the GRI indicators in the environmental reports of the companies. A GRI content index table is used as an evaluation tool. The description of all the GRI indicators is very comprehensive and an evaluation tool exactly based on the GRI list would not be appropriate for studying the influence. A GRI content index table partly based on GRI suggestions and also on the GRI content index tables presented by Kesko, Proventia Group and Wärtsilä is constructed. See Appendix 6.

Since this thesis mainly concentrates on environmental issues they are paid the highest attention. The environmental performance indicators are therefore identical to those of GRI. Indicators suggested by GRI are marked "/GRI". Indicators suggested by the Finnish companies studied are consequently marked "/K" (Kesko), "/PG" (Proventia Group) and "/W" (Wärtsilä). All the headings are as presented by GRI.

Social performance indicators are of great interest but they are only studied on a broader level. All the economic performance indicators EC1 - EC 10 are summarised into one indicator to check if the company notes the economic aspects. For "Fully covered" in the evaluation table the environmental performance indicator must fulfil the definition according to GRI, but "Fully covered" for the summarised indicators means that the indicators are almost covered as suggested by GRI. "Partly covered" means that many of the indicators are reported but no detailed analysis is made as to which are, and which are not, reported. "Not covered" means that no information on the indicator is found.

The analysis is based on a subjective evaluation and the deviation is estimated to be least concerning environmental performance indicators and most for the summarised indicators. The more indicators are summarised the larger is the deviation.

4.3.2 GRI INFLUENCE IN ENVIRONMENTAL REPORTS 2002 OF SEVEN NORDIC COMPANIES

Out of seven selected Nordic companies only three, that is AstraZeneca, Perstorp and Stora Enso, chose to publish a stand alone environmental report 2002. The reports are as follows: "We're working (Corporate Responsibility Summary Report 2002)" (18 p) by AstraZeneca and "Environmental Report 2002" (114 p) by Perstorp.

Stora Enso published a series of three reports: "Performance Responsibility" (52 p), "Environment, Resources" (35 p) and "Financials" (96 p), all available in a paper board package named "Stora Enso 2002". "Environment/Resources" (Stora Enso 2002b) focuses on environmental issues and "Performance Responsibility" (Stora Enso 2002c) presents all from financial highlights to the main product areas. The end part (pp. 32- 52) of the latter report is headed "Corporate Social Responsibility". "Environment/Resources" and "Corporate Social Responsibility" are thus picked out for the GRI study (in total 76 p). This disappointing development in the area of environmental reporting concerning the selected seven companies thus gave only three stand-alone reports for a closer GRI study.

4.3.2.1 ENVIRONMENTAL INFORMATION 2002 BY AKZO NOBEL, ESAB, TOMRA AND VOLVO

Out of the seven selected Nordic companies Akzo Nobel, ESAB, Tomra and Volvo did not publish an environmental report 2002. A brief description is given below of the companies' environmental information in the annual report 2002 or on the web sites (January 2004) and an assessment whether some influence of GRI reporting can be seen.

Akzo Nobel

Akzo Nobel issued its latest environmental report in 1999. Since 2000 Akzo Nobel has included HSE reporting in its annual report. HSE data can be found on the company's web pages under Key Facts (26.01.2004). Under Frequently Asked Questions (FAQ) the question "Why has Akzo Nobel stopped to produce a Corporate Environmental Report?", "Preferring quality over quantity" is a reason given. Akzo Nobel decided to reduce the number of parameters they reported on to five. No answer is given why no report on the five parameters is included in an environmental report. No clear inspiration from the GRI concept can be seen in the environmental report, either in the annual report or on the web sites. The company prefers to talk about "Sustainability Management" instead of sustainable development and "aims to strike the balance between the sometimes differing interests of the three P:s: People, Profit and Planet". Akzo Nobel has thus its own definition of the sustainability issue (Internet/FAQ, 26.01.04). The Annual Report 2002 includes 3 pages (30-32) of HSE information.

ESAB

ESAB published its first environmental report 1997 and the latest one is from 1999. ESAB has introduced the concept of sustainable development recognizing both environmental and social aspects. Only environmental performance is reported on the websites (31.01.2004). Social issues are only dealt with under social policy. Economic issues are not noted on the websites under the "Sustainable Development" pages. No annual report was found on the web pages (24.02.2004). No trends towards adopting the GRI principles can be seen.

Tomra

Tomra has included a separate environmental reporting section in its annual report since 1997. In the Annual report 2002, Tomra dedicates five pages (31-35) headed "Delivering environmental performance" to environmental information discussing corporate social responsibility and presenting Key figures on financial, environmental and social issues. Eco-efficiency figures on environmental indicators are also presented as well as information on objectives and targets. In the FAQ on Internet (31.01.2004) the question "Why are TOMRA's environmental and CSR reports published as a section of the annual report and not in a separate document?" can be found the answer "Environmental and social issues are integrated into our annual reports because TOMRA believes that this signals to all stakeholder groups that TOMRA regards environmental and social issues as an integrated part of our operations."

An expanded Tomra report is available on the web. Tomra has adopted the sustainability thinking combining information on environmental, financial and social issues and talks about CSR (Corporate Social Responsibility) and the Triple Bottom Line. No clear inspiration from the GRI concept can be seen

Volvo

From March 2002 Volvo has included summarised environmental and social information in the annual report. On the web pages Volvo refers to the Annual Report 2002 and the web link "Annual report, excerpt Managing values" gives consequently three pages headed "Managing values". Obviously these pages have to be regarded as the environmental part of the Annual report. This is not completely clear to the reader since finding environmental information on Volvo's website is difficult. The mentioned pages include a description (pp 24/25) and a Table (no page number) on figures of Employees, Vehicles invoiced and Environmental performance of Volvo production plants.

In an e-mail dated 19.12.2003, Volvo was asked the reasons for not issuing an environmental report but no answer was given to that specific question. The e-mail answer only mentioned links on how to find the annual report. Anyhow, no complete pdf-file on the Annual report was found only a list on files as parts of the annual report. The "Managing values" chapter briefly discusses environmental impacts of products and production. Social aspects are not discussed. The most important parameters are given in figures but no deeper discussions and explanations are provided. The "Managing values" does not thus follow the GRI concept.

4.3.2.2 GRI INFLUENCE IN ENVIRONMENTAL REPORTS OF ASTRA ZENECA, PERSTORP AND STORA ENSO

Out of seven companies selected for a study only three issued an environmental report 2002. GRI influence in the environmental reports of Astra Zeneca, Perstorp and Stora Enso was studied by using a GRI content index table as a tool, see Appendix 6. The table is based on the GRI content index tables in the environmental reports of Kesko, Proventia Group and Wärtsilä. The study is performed to get an overall picture of the inclusion of the GRI indicators, and the indicators are not studied in detail.

Environmental indicators are paid most attention and economic ones less. The environmental performance indicators are the same as by GRI and the economic performance indicators are abbreviated into one "Economic performance indicators". The social performance indicators and indicators 1-4 are summarised according to suggestions by the three Finnish companies. This process gave 46 indicators to study instead of 95. Only core indicators are noted in this study. A comparison between the number of indicators per section studied in this thesis and those suggested by GRI is presented in Table 4.5

The result of the study is presented in Appendix 6. If the GRI indicator is covered in the report this is marked by " + ", partly covered by " (+) " and not covered by " - ". The GRI's definition concerning coverage is followed concerning environmental performance, but only partly followed in the cases where the indicators are summarised. This had to be done since the GRI indicators are very detailed and demanding and if the definitions had been strictly followed it is most probable that the analyses would mostly have given "not covered" as a result. New indicators are then in a sense created to make the analysis easier and to give an overall picture of the situation.

Table 4.5. The number of core indicators studied compared to those suggested by GRI

	Indicators studied (n)	GRI indicators (n)
1 VISION AND STRATEGY	2	2
2 PROFILE	5	22
3 GOVERNANCE STRUCTURE AND MANAGEMENT SYSTEMS	9	20
4 GRI CONTENT INDEX	1	1
5 PERFORMANCE INDICATORS		
<i>ECONOMIC PERFORMANCE INDICATORS</i>	1	10
<i>ENVIRONMENTAL PERFORMANCE INDICATORS</i>	16	16
<i>SOCIAL PERFORMANCE INDICATORS</i>	12	24
TOTAL	46	95

4.3.2.3 ENVIRONMENTAL REPORTS 2002 BY ASTRAZENECA, PERSTORP AND STORA ENSO

AstraZeneca issued the Corporate Responsibility Summary Report 2002 "We're working" (18 p) and describes the report by the words "This Summary Report is designed to capture the main points of our approach to corporate responsibility (CR) and the highlights of our 2002 performance". For further information the reader is referred to the website. A large part of the report consists of pictures thus leaving only a small number of pages for written information. The report strongly focuses on responsibility issues, with environmental issues only part of these. A table summarises the information. In the introduction it is noted that the GRI guidelines are independently used as the basis for selecting and organising the content of the report and the information on the website.

Perstorp issues an Environmental Report 2002 on 114 pages. The company clearly notes that the report "does not follow any individual international guiding principles. However, the Global Reporting Initiative (GRI) and the Deloitte&Touche checklist have served as a source of inspiration to a certain extent" (p. 111). The report presents information under clear headings. This report could be classified as a "classical" environmental report, with a weak but visible movement towards sustainability reporting. Information about Employees, Health & Safety and Stakeholders is presented in separate chapters. Environmental related financial data is presented but no chapter is addressed to further social issues.

Stora Enso published a series of three reports: Financials (96 p), Performance Responsibility (52 p) and "Environment Resources" (35 p). The reports are available in a paper board package "Stora Enso 2002". "Environment/Resources" focuses on environmental issues. "Performance Responsibility" presents all from financial highlights to the main product areas. The end part (pp. 32- 52) is headed "Corporate Social Responsibility". "Environment/Resources" and "Corporate Social Responsibility" were picked out for the GRI study.

This package gives very good information on Stora Enso and shows how information on sustainability can be integrated in information on the whole company. This information is anyhow very comprehensive and surely meant for those really interested in the company and its performance and policy. Information can be difficult to find. "The report follows the Global Reporting Initiative (GRI) as appropriate and applicable to Stora Enso" is noted on page 35 in Performance Responsibility. This is an example of information provided in the report, but perhaps not so easy to find. Few stakeholders have the time needed to read through all the text.

4.3.2.4 RESULTS OF THE STUDY OF THE INFLUENCE OF GRI IN THE COMPANIES' ENVIRONMENTAL REPORTS

Out of the seven Nordic companies only three had issued an environmental report. Akzo Nobel had issued environmental information (3 pages) in the annual report. Tomra issues environmental information (Sustainable Development, 25.02.2004) on the website, but no annual report was found. In the Annual report 2002 Tomra dedicates five pages headed "Delivering environmental performance" to environmental information, discussing corporate social responsibility and presenting "Key figures" on financial, environmental and social issues. From March 2002 Volvo included summarised environmental and social information in the annual report. A trend towards sustainability thinking can be seen in environmental information but no clear influence from the GRI guidelines.

AstraZeneca, Perstorp and Stora Enso issued an environmental report in 2002 and the reports were studied using a GRI content index table as an evaluation tool. The results are shown in Appendix 6.

To get an overall and non-company specific picture all the indicators were summarised. There were 46 indicators covering all the 95 GRI core indicators studied. The results of the study on coverage of GRI indicators in the environmental reports of AstraZeneca, Perstorp and Stora Enso show that, in total, 41 % of the indicators are covered, 38 % partly covered and 22 % not covered and the results thus indicate that a GRI influence can be seen in the reports. See table 4.6.

"Vision and strategy" are well in place (83 % covered). "Profile" and Governance structure and management systems" are almost totally covered or partly covered (not covered 7% resp. 4 %). None of the companies presented a GRI content index table. The results show that all the companies reported on economic performance indicators, but one has to bear in mind that all ten GRI economic performance indicators are summarised into only one. To find out how well the companies report in the economic area the indicator should be split up into several indicators. This figure does not therefore give a true picture of the situation but only indicates the inclusion of economic aspects in the reports.

Table 4.6. Coverage of GRI indicators in the environmental reports of AstraZeneca, Perstorp and Stora Enso. The evaluation is performed with a GRI content index table based on the suggestions by three Finnish companies. The economic performance indicators are summarised into one and the environmental indicators used are suggested by GRI.

GRI indicators (nx3)	Covered		Partly covered		Not covered	
	n	%	n	%	n	%
1 Vision and strategy (6)	5	83	1	17	-	-
2 Profile (15)	10	67	4	27	1	7
3 Governance structure and management systems (27)	12	44	14	52	1	4
4 GRI content index (3)	-	-	-	-	3	100
5 Performance indicators						
Economic performance indicators (3)	3	100	-	-	-	-
Environmental performance indicators (48)	16	33	17	35	15	31
Social performance indicators (36)	10	28	16	44	10	28
Total (138)	56	41	52	38	30	22

The environmental performance indicators are more strictly analysed and the results show that 33 % are covered, 35 % partly covered and 31 % not covered. The sum of not covered environmental performance indicators is strikingly high. This can of course partly be explained by the fact that all environmental issues are not relevant for all companies and should not be reported. Therefore the figure 31 % not covered is estimated to be slightly too pessimistic, but on the other hand only 33 % are covered and 35 % still remain partly covered. These figures show that reporting on environmental performance could be improved. The companies are no newcomers in the reporting arena and reporting on environmental issues is therefore expected to be well in place. Sustainability thinking, which includes social aspects as one pillar, can most clearly be seen in the figures presenting social performance: 28 % of the indicators are covered, 44 % are partly covered and 28 % not covered.

Table 4.7. GRI CONTENT INDEX TABLE
A comparison of sustainability indicators included in the environmental reports of AstraZeneca, Perstorp and Stora Enso with the sustainability indicators recommended by the Global Reporting Initiative (GRI 2002). The indicators are partly summarised and headed as suggested by Proventia Group, Kesko or Wärtsilä in their GRI content index tables to give an overall picture of the inclusion of the GRI indicators.

Sustainability indicator based on GRI	AstraZeneca				Perstorp				Stora Enso									
	Covered	Partly covered	Not covered	Covered	Partly covered	Not covered	Covered	Partly covered	Not covered									
	n	%	n	%	n	%	n	%	n	%	n	%						
1 VISION AND STRATEGY (2)	2	100	-	-	-	-	2	100	-	-	1	50	1	50	-	-		
2 PROFILE (5)	2	40	2	40	1	20	4	80	1	20	-	-	4	80	1	20		
3 GOVERNANCE STRUCTURE AND MANAGEMENT SYSTEMS (9)	4	44	4	44	1	11	4	44	5	55	-	-	4	44	5	55		
4 GRI CONTENT INDEX (1)	-	-	-	-	1	100	-	-	-	-	1	100	-	-	-	1	100	
5 PERFORMANCE INDICATORS																		
<i>ECONOMIC PERFORMANCE INDICATORS (1)</i>	1	100	-	-	-	-	1	100	-	-	-	-	1	100	-	-	-	
<i>ENVIRONMENTAL PERFORMANCE INDICATORS (16)</i>	-	-	7	44	9	56	8	50	4	25	4	25	8	50	6	38	2	13
<i>SOCIAL PERFORMANCE INDICATORS (12)</i>	3	25	6	50	3	25	2	17	6	50	4	33	5	42	4	33	3	25
Total (46)	12	26	19	41	15	33	21	46	16	35	9	20	23	50	17	37	6	13

In the company specific Table 4.7 the companies reporting on the specific indicators can be seen. AstraZeneca covers only 26 % of the indicators and leaves 33 % uncovered. Perstorp performs better and covers 46 % and does not cover 20 %. Stora Enso is the best company of those three, covering 50 % and not covering 13 %.

The most striking result is that AstraZeneca does not cover 56 % of the environmental performance indicators, covers partly 44 % and thus the figure for covered is 0 %. On the other hand 25 % of the social performance indicators are covered and 50 % partly covered. This is most probably explained by the fact that AstraZeneca issues a corporate Responsibility Summary Report 2002 (18 p) where the social aspects have been given a dominant position. The results show that this is done at the expense of reporting on the environmental performance.

4.4 FINDINGS

The aim of this part of the study was to survey some large Nordic companies' environmental reporting trends. If some trends could be identified this would give valuable input to a standardised reporting framework.

Development during a three year period of environmental reports by Akzo Nobel (1997-2000), Astra Zeneca, (Earlier Astra 1998 - 2000), The Esab Group (1997 - 1999), Perstorp (1998 -2001), Stora Enso (1998 - 2001), Tomra (Annual report 1998 -2001) and Volvo (1998 - 2001) was studied. The reports were surveyed in summer 1999, where the latest available reports were studied to identify the coverage of sustainability issues according to The Global Reporting Initiative guidelines 1999. Both a subjective and a systematic method were used for scoring the reports in the 1999 survey. The reports were compared by a subjective method to latest reports available in summer 2002

A complementary study of environmental reports 2002 of the companies was performed to examine the influence of the GRI guidelines by studying inclusions of GRI 2002 core indicators in the reports. For this purpose an evaluation tool was constructed, partly based on a GRI content index table in the environmental reports of the Finnish companies Kesko, Proventia Group and Wärtsilä.

MAIN FINDINGS BASED ON THE STUDIES ARE SUMMARISED BELOW:

Environmental reporting

All companies do not tend to issue a yearly stand-alone environmental report. Environmental information is e.g. included in the annual report or on the web. This decreasing trend can be seen through the four year period. In a survey, KPMG (Kolk and van der Veen 2002) draws the conclusion that the overall reporting trend is increasing although a decrease is seen in Denmark Norway and Sweden. KPMG explains the decrease by underlining that reporting companies have been replaced by e.g. mergers.

Amount of information

The amount of environmental information provided has decreased in the reports during the three year period. Counted by the numbers of pages the decrease is 27 %. On the other hand the 2002 reports by the three reporting companies show a very strong increase in the number of pages in one year (Astra Zeneca 13 to 18 pp, Perstorp 41 to 114 pp and Stora Enso 34 to

76 pp). This can perhaps be explained by a polarisation in reporting and non-reporting companies.

Environmental indicators

No clear changes in reported environmental indicators have occurred during the three year period and this also applies to the whole four year period. The study of the 2002 reports shows that 31 % of the environmental performance indicators are not covered, 33 % are covered and 35 % still remains partly covered. Even if this is a subjective study and the deviation of the figures is estimated to be rather high, up to about $\pm 5\%$ concerning environmental performance indicators, the figures show that reporting on environmental performance could be improved. Experienced reporting organisations are expected to show a more accurate reporting on environmental performance.

Social performance indicators

The study of the three year period shows that the choice of social indicators to be reported on varies. The indicators are almost similar to some of the social indicators suggested by GRI. The study of the 2002 reports shows that the companies report rather well on social performance indicators, in view of the fact that this area is new for the companies: 28 % of the social performance indicators are covered, 44 % are partly covered and 28 % not covered.

Trends towards sustainability reporting

The results presented above show that there is a trend towards sustainability reporting. The results indicate that reporting on social indicators has occurred at the expense of reporting on the environment. The three year period showed a drop in the number of pages of the reports though reporting on social issues increased. The 2002 reports show that reporting on environmental performance is not on the level that could be expected of the companies. This trend is very clear in AstraZeneca's Corporate Responsibility Summary Report 2002 "We're working" where 0 % of the environmental performance indicators can be regarded as covered and only 44 % of the indicators are partly covered. The rest of the indicators remain not covered.

The results show also that various expressions are used for describing reporting in the studied environmental/sustainability area. The study results indicate that the concept of sustainability is not clear and thus interpreted differently by the companies.

Information on the Web

Comprehensive environmental information is provided on the websites but information is not always clearly structured nor standardised and it is thus sometimes hard to find. The websites of the companies that did not issue an environmental report in 2002, that is Akzo Nobel, ESAB, Tomra and Volvo, were briefly studied (January 2004) to find GRI influence. No clear GRI influence was found but an inclusion of the three pillars of sustainability was seen. The results of this brief study support the results above regarding the web sites.

Can standardised frameworks be seen?

The reports studied are very different and benchmarking difficult to perform. No standardised framework can be seen as regards environmental reporting or reporting on the web. Even if a GRI influence can be seen in the three reports studied they are very different. GRI has improved the structure of the reports, but not reporting on the environmental issues. The overall aim of an environmental reporting standard should be to improve the environment by inspiring companies to improve their environmental performance.

Weaknesses in the Global Reporting Initiative Guidelines

The study of the 2002 reports reveals some weaknesses in the Global Reporting Initiative Guidelines. The guidelines invite companies to issue wordy reports about sustainability and management issues but to avoid saying very much about real performance. Out of 95 GRI indicators only 50 are performance indicators of which only 16 are environmental performance indicators. The GRI guidelines are a well produced handbook for companies which want to find a good structure for their reports. The guidelines also provide excellent ideas for reporting. The companies can pick and choose reporting ingredients from a large smörgåsbord but the result is still a large variety in reporting practices. The reports cannot be compared. A GRI content index table makes the situation slightly better, but since the GRI framework is very comprehensive the companies are forced to compress the tables, ending up with great variation in the tables, with the result that the tables cannot be compared.

The companies do not follow the GRI indicators as described and defined by GRI. The environmental reports cannot be compared on the basis of the GRI content index tables. The tendency of the companies to summarise the GRI indicators shows that the GRI guidelines are too comprehensive and not clear enough. There seem to be too many indicators. Indicators for one company to report on should be reduced and defined.

According to this study the GRI guidelines do not display the characters of a standard. Observance of a standard should give information that is clear and comparable. Hedberg and Malmborg (2003) have analysed sustainability reporting in Swedish companies and their results support the results in this dissertation. They note that the GRI guidelines "are just a guide, there are no concrete demands, only recommendations". They also come to the conclusion that the comparability of the reports suffers since the companies can choose the level of reporting that suits the level of the company's ambitions. "This we believe gives a lack of credibility of the GRI and maybe it could affect the company credibility in the long run as well". Hedberg and Malmborg ask for a verification system by GRI and clearer definitions on how to use the guidelines, and conclude "In all, the lack of possibility to provide verified and comparable reports would certainly be a key issue to solve if GRI is going to be a guideline that reduces the criticism of voluntary corporate reporting as being biased and self-laudatory." (p.163)

AS A SUMMARY OF THE STUDY RESULTS IN THIS CHAPTER THE FOLLOWING RECOMMENDATIONS ARE GIVEN:

- A standardised framework for environmental reporting should be drawn up. It should not be too comprehensive and should provide solutions for all kinds of companies. It should be possible for companies to enter into the reporting process step by step according to different levels. To achieve credibility the levels should be defined.
- Reports on the broad range of sustainability and management indicators should not be produced at the expense of reports on environmental performance. A standardised framework should emphasise performance indicators, with a strong focus on environmental performance indicators.
- The meaning of fundamental concepts like corporate social responsibility should be defined and commonly agreed on. We need to know what we are talking about.
- A standardised framework for environmental information on the Web should be drawn up.

5 DISCUSSION

5.1 DISCUSSION OF THE STUDY RESULTS

The aim of this thesis was to study corporate environmental reporting with the objective of contributing to the development of a commonly agreed framework and guidelines for environmental reporting. An important issue to settle is the need for a commonly accepted framework. There are a great number of environmental reporting initiatives but are they sufficient? Should a synthesis be worked out on existing initiatives or are further initiatives needed? The reporting framework should be applicable to all kinds of companies and thus also to reporting beginners and to companies lacking resources for comprehensive reporting practices. Emphasis is therefore on the need of small and medium-sized enterprises, SMEs, but all companies and business sectors are of interest in this study.

This work mainly focuses on corporate stand-alone environmental reports. The study includes environmental reporting on a generic level. However the study pays special attention to reporting practices in the Nordic countries and especially in Finland. The research questions are: Is there a need for a commonly accepted framework for environmental reporting? If the answer to the question is yes, what should the framework include? What are the needs of SMEs concerning a commonly accepted framework? The study includes three parts; a theoretical literature review and two empirical sections.

The literature review has two main objectives. The first objective of the literature review is to discuss terminology in the environmental reporting area with the purpose of finding a suitable term for reports which include all three aspects of sustainability that is environmental, social and economic issues. What should we call the reports? The other objective is to find an answer to the question whether there is a need for a commonly accepted framework of environmental reporting. Can some of the existing initiatives serve as input to the framework? Should the framework be prepared as a standard by an independent standardisation body? Lastly the study provides recommendations concerning the terminology and the reporting framework.

The first empirical part is based on a survey of 16 randomly selected Finnish companies. Most of them are SMEs. The aim of the study was to survey practices and views concerning environmental reporting in Finnish SMEs. The study results are compared to findings in the literature on barriers, drivers and suggestions for implementation of environmental management systems by SMEs and to environmental reporting.

The second empirical part is a desktop study of the development of environmental reporting in seven selected Nordic companies. Practised reporting trends are examined. Seven large Nordic companies are selected for a closer environmental reporting study. How have these companies' reporting practices developed during the period 1997-2001? A complementary study on environmental reports 2002 of the companies was performed to examine the influence of the Global Reporting Initiative, GRI guidelines. Inclusions of GRI 2002 core indicators in the reports were analysed. For this purpose an evaluation tool was created, partly based on GRI content index tables in the environmental reports of three award-winning Finnish companies. The GRI guidelines are discussed.

Environmental reports can be defined as "publicly available publications in which a firm gives an account of its environmental or environmentally related activities and 'results' in a specified period of time, usually a year" (Kolk 2000, p. 130). All companies do not produce plain environmental reports but want to introduce reporting on social and economic issues as

well. Environmental, social and economic aspects are all included in the concept of sustainable development.

Gray (2000) notes that the significant growth in environmental and social auditing and reporting has been "accompanied by a similar growth in confusion over terminology..." (p. 247). Commonly used terms, besides Environmental reports, are e.g. Social reports, Sustainability reports and Corporate Social Responsibility reports. Firms like to stress the numerous definitions of sustainable development that are proposed, which means that sustainable development or sustainability can be defined to "mean anything and to justify any behaviour" (Atkinson 2000). A number of companies have thus issued reports with the word "sustainable" or some deviation from it in the title, but many of these focus largely on environmental, health and safety issues others, conversely, deal with environmental social and economic issues but do not term the reports "sustainability reports" (Bennet and James 1999).

The concept of sustainability is defined as the process of meeting the needs of the present generation without compromising the ability of future generations to meet their own needs (UNWCED 1987, SFS-ISO 14050). Sustainability reports are usually understood as reports which address the three pillars of sustainability: environmental, social and economic issues (Stratos 2001). There seems to be an agreement on the definition but on the other hand there seems also to be confusion on what the term really means on a practical corporate level. Many authors have contributed to the discussion and e.g. Korhonen (2003) concludes that sustainability is "impossible to define and very difficult to measure" (p. 37). Bebbington and Gray (2001) state that it is a genuinely dangerous attempt to reduce "a concept as rich and diverse as sustainability sufficiently to fit within a straightjacket of accounting" (p. 558). The corporate aspect is further complicated by the fact that sustainable development encompasses "both voluntary and non-voluntary approaches and involves actions and policies that can only be taken by governments or intergovernmental organisations." (ISO 2004, p. 25). This indicates that the concept of sustainability is too broad for covering a company's activity.

Corporate Social Responsibility (CSR) can be understood as the business contribution to sustainable development and can be seen as an integral part of the sustainable development concept (Isusi 2002). Many concepts and definitions for CSR have been proposed and current definitions are often biased towards specific interests (Van Marrewijk 2003). In its Green Paper on CSR (COM(2001) 366) the European Commission establishes that there is no commonly accepted definition of corporate social responsibility. Consequently we also face the measurement problem (Carroll 1999). The ISO working group on CSR (ISO 2004) notes that while the term "corporate social responsibility" is widely used other terms are also used including "corporate responsibility", "corporate citizenship", "corporate integrity", "organizational responsibility" and "social responsibility". All these terms put a slightly different emphasis on one or other aspects of CSR. The literature study shows that there do not exist commonly accepted definitions of the terms. This phenomenon is also underlined by the results in the empirical sections. There seems to be confusion concerning the terms to be used.

What should we call reports that address environmental, social and economic issues? On the one hand we have the well known concepts and terminology that is based on the word "environment" like environmental management systems (ISO 14001 and EMAS), environmental indicators (ISO 14031), environmental communication (ISO 14063) etc. and indeed environmental reporting. Most of the environmental indicators are scientifically defined and they can be measured based on accepted methods and standards. The concept of environmental reporting is recognised by a non-specialist audience. This indicates that "environmental reporting" is a solid term that could be recommended.

On the other hand we have the political demand on the concept of sustainability. Sustainability is however more than a new word for the environment (Bebbington and Gray

2001) and besides environmental aspects it also addresses social and economic ones. By definition, environmental reports also include "environmentally related activities" (Kolk 2000). Environmental reports could thus include e.g. social activities. Organisations like GRI have adopted the concept of sustainability and many companies have issued sustainability reports. The challenge concerning confusion about terminology has to be handled in a proper way.

On the basis of the study results it is therefore suggested that that the term sustainability and corresponding terms should be sparingly used. For describing a corporate report the sustainability terms could be used in combination with the term Environmental Report e.g. "Environmental Report - Social aspects included" or "Environmental Report - Health and safety aspects included". This description of the report could have a standardised place on the cover page of the report e.g. as a header leaving space for more explanatory headings. Thus exactness and clarity could be combined with flexibility. The international standardisation organisation ISO decided in June 2004 to develop an international standard for social responsibility. This work will most probably influence development of an environmental reporting standard including the terminology.

The results show that the concept of sustainability is still too vague. Sustainability also concerns economic aspects, which are poorly dealt with in environmental reports. This thesis uses the term Environmental report including all the three aspects of sustainability. On the other hand the term Sustainability report is also used mainly in connection with references to authors who talk about Sustainability reports. This is done to respect different views.

A great number of organisations like UNEP, WBCSD, GRI, accountancy organisations and governmental bodies have contributed to the process of developing common frameworks for environmental reporting. EMAS expects companies to give a periodic statement about their performance during the previous period. ISO 14031 deals with environmental performance evaluation but there are no official standards on environmental reporting. The Global Reporting Initiative (GRI), which has assumed a dominant position in the sustainability reporting arena, published the third revised version of the guidelines in August 2002. The guidelines are comprehensive and informative, but not easy to use. Flexibility is underlined, which is welcomed, but makes the guidelines complex. They serve more as a handbook for reporting. GRI underlines that smaller organisations may choose to adopt an incremental approach to implementing the guidelines, but an "in accordance" document must report on each of the listed core performance indicators or explain the reason for their absence. An "in accordance" report is thus a comprehensive document whose production demands a lot of resources. In this respect the GRI concept is not suitable for SMEs.

A lot of useful guidelines and recommendations exist but no commonly accepted framework. See Appendix 8. The great variety of reporting guidelines leads to a great variety in environmental reports and the situation is thus confusing for most interested parties. It is almost impossible for non experts to be familiar with the status of the different guidelines and it is thus difficult to find out if one can rely on the information provided in the reports. One of the challenges faced in the environmental reporting area is the persistent lack of consensus on what and how to report. This raises concern about the content and quality of the reports (Marshall and Brown 2003). Reporting standards would especially benefit stakeholders by making the reports more consistent and comparable (Nyqvist 2001, Beets and Souther 1999). It is thus important to proceed towards a commonly accepted framework. It is recommended that the framework is based on existing guidelines like GRI and SA8000. Regarding the special needs of SMEs ideas presented in the concepts of the Eco-Lighthouse Program and the British standard BS 8555 should be carefully considered.

Part one of the empirical study concerns environmental reporting practices and views in 16 Finnish companies most of which are SMEs (< 250 employees). The companies which

represented a great number of business fields were asked to fill in a questionnaire. The percentage of answers was 55% and it is most likely that persons interested in environmental issues and companies performing well in the environmental area are most willing to answer. The results can therefore be biased. The form included 20 open-ended questions. The answers that expressed views and ideas varied a lot which implies that no strict statistical analyses could be performed in that part of the study.

The study shows that only 3 (19 %) had issued an environmental report, 5 (31 %) provided environmental information in the annual report and 11 (69 %) do not provide environmental information in the annual report or issue an environmental report. 7 (44 %) companies provided environmental information on the web pages. The findings indicate a correlation between the number of employees and environmental information issued. Companies with more than 100 employees are more willing to provide environmental information than smaller companies. This lends weight to findings presented by previous authors (e.g. Stray and Ballantine, 2000, NUTEK 2002, Nyqvist, 2001 and European Commission 2004) who argue that larger companies tend to issue environmental reports.

The study found that one of the main reasons that companies do not issue environmental reports or provide environmental information in the annual report is lack of resources. This is especially a problem for smaller companies. Lack of human resources and time is found as the main resource problems. Lack of knowledge is indirectly mentioned by e.g. expressing the need of guidelines. Lack of money is only indicated. The results correspond to findings in the literature (Hillary 1999, Ecotec 2000, Gerstenfeld and Roberts 2000, Biondi and Iraldo 2002).

The main reasons found for issuing an environmental report are the need of an open communication to all stakeholders and legal or other requirements. 40 % of the companies indicated that stakeholder demands or lack of these affected their reporting. The companies face motivation problems if no one asks for a report. Similar reasons are found by other authors (European Environment Agency 1998, Hillary, 1999, Ljungdahl 1999, Kolk 2000 and 2003, Nyqvist, 2001, Khanna and Anton, 2002, NUTEK, 2002, Snijders and van der Horst, 2002).

In this study the "SME problem" (Schaper 2002) was also identified. The SME problem is defined as the gap between a high level of environmentally responsible attitudes and a statistically significant relationship to the firm's actual environmental performance. The companies showed a positive attitude to environmental issues but not all companies could demonstrate significant environmental performance.

Various views considering the best ways of reporting were presented. Some companies prefer informing on the web to issuing environmental reports as a hard copy. A brief complementary study of environmental information provided on the companies' web pages was performed as well. The study shows that information on the web varies a lot and that no informal standard has gained ground to facilitate the process of finding information. Only 44 % provide environmental information on their web pages. This is a very low percentage considering that the information can be very brief, only discussing e.g. environmental policy. Simple guidelines for environmental information on the web should therefore be prepared. Finding information on the web would be easier if all companies used the same model for their information. It is worth noting that reports provided on Internet must be easily accessed and issued with clear links and in a readable and printable version.

Inviting companies to give their views on reporting and ideas concerning environmental reporting guidelines gave more information than expected. All the companies presented some views, which indicates a clear interest in the subject of reporting. Clarifications of concepts are important. A lot of reporting guidelines exist but they are apparently not well known or probably too complicated and time consuming to be used.

In the second empirical part seven large Nordic companies were surveyed to find environmental reporting trends. If some trends could be identified this would give valuable input to a standardised reporting framework.

Environmental reports available in June 1999 were compared with environmental reports or environmental information available in June 2002. The study was complemented by a visit to the companies' web sites to see how environmental information was performed in that medium. It is worth noting that only seven companies' environmental reports were surveyed. The results can therefore, as intended, only be used as ideas and inputs to a reporting framework.

A complementary study on environmental reports 2002 of the companies was performed to examine the influence of the GRI guidelines by studying inclusions of GRI 2002 core indicators in the reports. For this purpose an evaluation tool was constructed partly based on a GRI content index table in the environmental reports of the Finnish companies Kesko, Proventia Group and Wärtsilä.

The results show that all companies do not tend to issue a yearly stand-alone environmental report. Environmental information is e.g. included in the annual report. Only three companies out of seven had chosen to issue a stand-alone environmental report 2001. Two companies provided environmental information in the annual report and two companies had chosen another way of informing. Reasons mentioned for not issuing a stand-alone environmental report were e.g. lack of a concrete programme to manage environmental parameters and the fact that environment is no longer seen as a separate activity and is thus considered as an integral part of the business. The reports studied are very different and benchmarking thus difficult to perform.

The amount of environmental information provided has decreased in the reports. The total number of pages concerning the seven companies surveyed has decreased during the period from 194 to 142, that is by ca 27 %. Information can be given in a more concentrated or more efficient way and therefore the number of pages is not a reliable parameter for small changes. A reduction of about 27 % is however so significant that it cannot be neglected or only explained by a more efficient way of reporting.

The study does not identify clear changes in reported environmental indicators. Energy use, waste, discharges to water and air were still at the top of the list. Attention was also paid to transport, raw materials and environmental impact of the products and environmental management. Eco-efficiency was underlined since it is important to relate impacts to value created.

The study shows a clear trend towards sustainability reporting. The results show also that various expressions are used for describing reporting in the studied environmental/sustainability area. The study results indicate that the concept of sustainability is not clear and is thus interpreted differently by the companies. Various terms are used and the social indicators chosen to be reported on also vary. The indicators are almost similar to some of the social indicators suggested by GRI.

Companies declare that they are committed to sustainable development but reporting on social indicators is somewhat vague. The results of the survey are supported by the findings in the literature study. No common definitions on the main terminology exist and the study thus argues the importance of standardised, defined and commonly agreed terms. Though environment is one pillar of the sustainable development concept it should be handled separately. The results indicate that reporting on social indicators has occurred at the expense of reporting on the environment.

Comprehensive environmental information is provided on the websites of the companies but information is not always clearly structured nor standardised and thus sometimes difficult to find. The benefits of web reporting are obvious and discussed by Isenmann and Lenz (2001 and 2002) and they point out e.g. that companies are enabled to offer reporting on demand as well as individual information that meets target groups. Internet use thus offers more flexibility and timeliness and frequent updating is possible. The study shows that not all information on the web pages was updated. Reasons for that were not found. The web is a good medium for supplemental information, but information has to be systematically presented.

The reports studied are very different and comparing the reports is difficult. No standardised framework can be seen as regards environmental reporting or reporting on the web. Even if a GRI influence can be seen in the three reports studied they are very different. GRI has improved the structure of the reports but not reporting on the environmental issues. The overall aim of an environmental reporting standard should be to inspire companies to improve their environmental performance. Since SMEs are regarded as significant polluters the environmental reporting framework should focus on the needs of SMEs.

Synthesis

The literature review and the two empirical studies of this thesis underline that there is a need for a standardised environmental reporting framework that considers both terminology and content. The framework should integrate all the three aspects of sustainability that is environmental, social and economic issues. The framework should be performance oriented and the emphasis should, in the absence of defined and measurable social indicators be, strongly on the environment. The framework should be compatible with the ISO 14000 series and note initiatives like GRI, the Eco-Lighthouse and BS 8555. In Table 5.1 a synthesis of the study results is presented. To guarantee unbiased work it is important that a standardisation organisation is responsible for the development of the framework and that the end product is a standard. Standards are recognised and have a high status.

The reporting framework should be applicable to all companies regardless of present reporting level, which includes beginners and companies lacking resources for work at greater depth. The study results underline that the needs of SMEs should be considered when preparing the guidelines. The model for reporting should therefore provide different levels according to the companies' needs. The research results indicate that the most important part of the standardised framework is the first level which provides a simple framework for starting the reporting process and gives clear instructions on what issues to include in the report. Only a few parameters that can be easily measured should be considered. Sector specific guidance should be provided by e.g. trade associations in co-operation with other interested parties. The work should be transparent.

The most relevant and important views expressed by the organisations studied in the literature review and the companies studied in the empirical parts can be drawn together and form a basis for a standardised framework. The following can be concluded:

The information provided in the environmental report should be relevant, reliable, neutral, complete and transparent and comparable from year to year. It is underlined that auditability is important. Parts of the reporting process identify the audience, define the reporting objectives, review and identify the main environmental impacts and preparation of an environmental policy. The company should consider what issues to include in the report

Table 5.1. Synthesis on the study results of the three parts of the thesis

<i>Review of environmental reporting (Chapter 2)</i>	<i>Environmental reporting practices in Finnish small and medium sized companies (Chapter 3)</i>	<i>Development of environmental reporting of seven Nordic companies (Chapter 4)</i>
<ul style="list-style-type: none"> - Confusion concerning terminology (environment, sustainability, CSR or?) - Many reporting initiatives - GRI in the frontline (some weaknesses exist) - ISO 14000 series on environmental management e.g. ISO 14031 (environmental performance evaluation) and 14063 (environmental communication) - ISO initiative on CSR, a new standard? - SME approaches e.g. BS 8555 and ECO-Lighthouse <p style="text-align: center;">⇕</p> <p>A need for a commonly accepted framework for environmental reporting:</p> <ul style="list-style-type: none"> - Reporting on environmental issues + reporting on social and economic issues - Special attention should be paid to the terminology - Compatible with ISO 14000 series and consider other main initiatives e.g. GRI - Performance oriented not only process oriented - The framework should be an official standard 	<ul style="list-style-type: none"> - There is a need for environmental reporting guidelines - A clear model, e.g. a form to fill in, on how to report is desired. The model should give advice on what to report on, in which order, how to measure and handle the results. - Different models for different business fields are needed. - Environmental reports should be comparable - The reports should not be too comprehensive but include the most essential parameters and be easy to read. - Different models according to stakeholders' needs should be applicable. The comprehensiveness should vary according to the needs. - CSR aspects should be included in reporting guidelines. - There is a need for guidelines for Web reporting 	<ul style="list-style-type: none"> - A standardised framework for environmental reporting should be drawn up. It should not be too comprehensive and should provide solutions for all kind of companies. It should be possible for companies to enter into the reporting process step by step according to different levels. To achieve credibility the levels should be defined. - Reporting on the broad range of sustainability and management indicators should not occur at the expense of reporting on environmental performance. A standardised framework should emphasise performance indicators, with a strong focus on environmental performance indicators. - The meaning of fundamental concepts like corporate social responsibility should be defined and commonly agreed on. We need to know what we are talking about. - A standardised framework for environmental information on the Web should be drawn up.
<p>⇕</p> <p>A standardised framework:</p> <p>Environmental reporting including reporting on social and economic issues (sustainability reporting?), standardised terminology, incremental approach with defined levels according to the need of the company e.g. SMEs, clear structure of the guidance e.g. concerning environmental performance indicators, performance oriented with focus on environmental performance, compatible with ISO 14000 series, considering initiatives like GRI, BS 8555 and Eco-Lighthouse, a framework for web reporting</p>		

and how to report. Only core issues should be included in a beginner's report.

Suggestions of ingredients are environmental policy, profile of the organisation, a brief description of key environmental impacts, selected environmental performance indicators and targets for improvement/progress towards targets. How to issue environmental information on the web should be agreed on as well. In Section 5.2 some suggestions concerning the standardised framework are outlined.

5.2 SUGGESTIONS FOR A STANDARDISED INCREMENTAL MODEL FOR ENVIRONMENTAL REPORTING ALSO APPLICABLE TO SMEs

The study results show that a simple standardised model for environmental reporting is welcomed. The model should be applicable to all kinds of companies and business sectors according to the stakeholder needs. Flexibility is suggested but an open comprehensive model where companies have to decide which reporting ingredients to choose makes for a great variety of reports of differing quality. The reports are difficult to compare if the issues vary a lot. The process of selecting amongst all ingredients usually demands expertise in the environmental area. All companies, especially small ones, do not have the needed expertise. Therefore companies should be given the opportunity to approach the reporting process through different standardised stages, from producing reports on a brief level to reports on a deeper and comprehensive level. A standardised reporting model including a range of levels is therefore suggested. The suggested brief model is at the first stage and can only be characterised as an outline and an example to serve as input to further discussions. Some outlines for reporting on the web are presented as well.

5.2.1 A MODEL FOR STANDARDISED ENVIRONMENTAL REPORTING

It is suggested that the reporting framework should be defined by standardisation organisations. It is furthermore suggested that trade associations in co-operation with other interested parties define the sector specific performance reporting indicators. The work of trade associations should be transparent allowing e.g. NGOs (non governmental organisations) to participate in the process of developing the indicators. The company can start from Level 1, which is the most simple level, and then proceed to more demanding levels according to the needs. One can start from qualitative indicators that describe policies and programmes in place and proceed progressively to more specific ones. The threshold for Level 1 should be low so that it can be easily reached and thus tailored for SMEs lacking resources for more comprehensive reporting.

Environmental reports are issued according to Levels 1, 2 or 3 and they are marked L1, L2 or L3 according to level. See figures 5.1 and 5.2. The reader thus immediately knows what kind of information is provided. Every report consists of a core part issued according to the standard, and in addition the reports can if wished include optional issues. This underlines flexibility and facilitates the process of moving from one stage to another. The company can e.g. fulfil Level 1 but wants to report on additional environmental performance indicators and introduce reporting on social issues. This can be done and the reporting can develop until it is mature for Level 2.

Cover page with a standardised part		Additional and optional information			Standardised and verified core part			
L1	ENVIRONMENTAL REPORT 2004, xxxxx							
Sustainability on our agenda 2004 CLEANER PRODUCTS								
Page		2	3	4	5	6	7	8

Fig 5.1. A model for a standardised environmental reporting framework. The environmental report consists of a standardised and verified part and a part with additional and freely chosen information. The shaded parts are standardised.

Information reported according to the standard is clearly marked avoiding misunderstanding. Auditability is underlined and the standardised core issues should be verified by a third party. The environmental report should thus from its early beginning be produced so that it can be assured by a third party. It is also worth noting that the reports must be brief, clear and easy to read. Complicated language and terminology should be avoided.

The reporting process is summarised in Table 5.2. The process is a synthesis based on the findings in the literature review (chapter 2) and the empirical parts (chapters 3 and 4). Findings in the literature review were mainly in line with those found in the empirical parts. Choice of inputs from the literature review to the synthesis is based on the findings in the empirical parts and also on my own opinions.

5.2.1.1 SHOULD THE COMMONLY ACCEPTED FRAMEWORK BE BASED ON GRI?

Defining the reporting levels should be based on former work in the area. Existing initiatives should if possible be compatible, so that companies can implement one framework and if they wish proceed to another more demanding one without duplicating the work. It is therefore important to consider existing initiatives when the commonly accepted framework is developed. Reporters should be offered the possibility to reach a high level of reporting on different ways. Existing environmental management initiatives provide examples of this. Going through all phases in the British standard BS 8555 makes the company prepared for the ISO 14001 certification and after that the company can continue to EMAS registration.

Table 5.2 ENVIRONMENTAL REPORTING FRAMEWORK	
Inputs from standards and organisations	THE REPORTING FRAMEWORK
	REPORTING PRINCIPLES
ISO 14063, draft GRI	Transparency, appropriateness, credibility, responsiveness, clarity neutrality, comparability, timelines, sustainability context, auditability
	REPORTING PROCESS
WBCSD DEFRA " " " " " WBCSD " DEFRA	- Defining the reporting objectives - Identify your audience - Review and identify your main environmental impacts - Prepare an environmental policy - Consider what to include in a report - an incremental approach - Consider how to report - Constructing the report - Distributing the report - Collecting and analysing feedback - Consider assurance arrangements
	REPORT CONTENT
GRI DEFRA (GRI) UNEP DEFRA DEFRA GRI GRI DEFRA DEFRA Eco-Lighthouse "	- Vision and Strategy - Profile of your organisation - Relationships with environmental stakeholders - Key environmental (and social) impacts - Environmental policy - Governance structure and management systems - Performance indicators - Targets for improvement/progress towards targets - Legal compliance - Results of previous year's strategy - New plan of action for upcoming year
	INDICATORS - BASIC PRINCIPLES
EMAS ¹⁾ " " " " WBCSD "	- Comparability; indicators should enable a comparison and show changes in the environmental performance - Balance between problematic (bad) and prospective (good) areas, - Continuity; indicators should be based on the same criteria and should be taken over comparable time sections or units, - Timelessness; indicators should be updated frequently to allow action to be taken, - Clarity; indicators should be clear and understandable - Scientifically supportable - Environmentally relevant - Accurate - Useful for all kinds of businesses around the globe
	INDICATORS - MEASUREMENT (INCL. SAMPLING) PRINCIPLES/METHODS AND EVALUATION OF DATA QUALITY
	- Further instructions to be prepared as technical reports - References to existing methods
	INDICATORS - DATA PRESENTATION
GRI WBCSD "	- Absolute figures or normative measures - Eco-efficiency values - Methods: graphs, charts, figures etc.
	ENVIRONMENTAL PERFORMANCE INDICATORS
UNEP UNEP Eco-Lighthouse Eco-Lighthouse GRI	- Materials use and trends - Major waste streams - Waste reduction, Waste treatment/sorting - Energy use and trends; - Direct energy use segmented by primary sources

GRI Eco-Lighthouse " " UNEP, DEFRA GRI " " UNEP GRI " " "	- Indirect energy use - Transportation - Water consumption and trends - Environmental accidents, - Water effluents - Air emissions; Greenhouse gas emissions - Use and emissions of ozone-depleting substances - NOx, SOx, and other significant air emissions by type - Product impacts during use - Location and size of land owned, leased, or managed in biodiversity-rich habitats - Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, fresh-water, and marine environments - Significant spills of chemicals, oils, and fuels in terms of total number and total volume
SOCIAL PERFORMANCE INDICATORS	
UNEP Eco-Lighthouse + GRI SA8000 " " " " " " GRI "	- Health and safety - Internal information - Work environment, Employment, Labour/Management Relations - Child Labour - Forced Labour - Freedom of Association & Right to Collective Bargaining - Discrimination - Disciplinary Practices - Working Hours - Remuneration - Training and Education - Diversity and Opportunity
ECONOMIC PERFORMANCE INDICATORS	
GRI	GRI economic performance indicators EC1-EC10 (see Appendix 5)
References are found in sections 2.3.1-2.3.6 1) Commission Recommendation (2003/532/EC) For GRI indicators see Appendix 5	

The work of GRI should carefully be considered. GRI is in the frontline and over 300 companies have already issued reports with reference to the GRI guidelines. Figures for Nordic companies are presented in Table 5.3. The relatively low number of companies however indicates that implementing the GRI idea is not a completely successful process.

Table 5.3

Nordic companies that have issued their environmental reports with reference to the GRI guidelines. In brackets are mentioned the number of companies that have issued a report "In Accordance" with GRI. (Source: GRI website 03.06.04)

Denmark	Finland	Iceland	Norway	Sweden
3 (1)	13 (1)	0	2	14
Nordic companies: 32 (2)				

The GRI guidelines are a well produced handbook for companies which want to find a good structure for their reports. The guidelines also provide excellent ideas for reporting and the companies can pick and choose reporting ingredients according to their ambitions. The GRI reporting framework provides useful technical protocols in different areas and is continuously developing new documents. This thesis has however identified some weaknesses in the

guidelines and the guidelines (2002) cannot thus be recommended as the new commonly accepted standard in the area.

It is strongly suggested that the commonly accepted reporting framework should be performance oriented and not only process oriented with emphasis on environmental performance. Environmental performance indicators are defined and measurement methods already exist. GRI is process oriented. GRI recommends reporting against specific indicators but it does not set substantive performance expectations (ISO 2004, Hedberg and Malmberg 2003).

Out of 95 GRI indicators only 50 are performance indicators of which only 16 are environmental performance indicators. GRI is launched as sustainability reporting guidelines. The concept of sustainability (corporate social responsibility etc.) is not clearly defined. Commonly accepted measurement methods and standards in the social responsibility area should first be developed before a comprehensive sustainability reporting framework is drawn up. Reporting according to GRI gives an unfair picture of the company's performance. The reader is misled to believe that reporting on social issues is as well-grounded as reporting on the environment. All indicators should be scientifically supportable.

The environmental reports should be comparable. This is underlined as one of the main demands concerning the reporting framework. GRI reporting offers companies to choose the level of reporting. Only 26 companies (GRI website 3 June 2004) have chosen to report "In Accordance" which is an option and not a requirement according to the GRI organisation. This option is designed for companies that are ready for a high level of reporting. In the list we can find only two Nordic companies; the Danish Novo Nordisk and the Finnish Wärtsilä Corp. The low number of self declared "In Accordance" companies speaks for itself. The GRI guidelines have obviously some weaknesses. GRI thus offers reporting on the demanding "In Accordance level" and on other levels suitable for the reporting company. We thus have numerous reporting levels with reports that consequently cannot be compared. The study results underline this and show that GRI environmental reports are not comparable. The demand of comparability is not fulfilled. The "In Accordance" level is not suitable for companies lacking human resources in terms of expertise and time. SMEs are thus not well prepared for this demanding and recognised "In Accordance" level.

The Swiss company ABB (2003) shows an interesting approach in its sustainability review "ABB Annual Report 2003, Sustainability review". The whole report follows the headings in the GRI guidelines including the number indexes (see Appendix 5). This model is a clear step in the right direction. Environmental reports issued according to this model are strict and easier to compare. Photographs are only provided on the cover pages. The report on 27 pages is thus rather comprehensive and crammed with facts. It would be preferable if the most important facts could be provided on fewer pages. Further studies concerning this way of reporting should be performed to clearly identify its strengths and weaknesses.

The study results show that all GRI indicators are not clear, they are described in many words and companies have difficulties interpreting them. Indicators should be clear and understandable. The GRI guidelines are very comprehensive and fulfilling them demands a lot of resources. The needs of SMEs which lack resources are thus not met.

It is suggested that the commonly accepted framework should be partly based on GRI but reporting principles and basic principles (see Table 5.2) should be carefully considered. Ingredients from the GRI guidelines can serve as input to the commonly accepted framework, but due to weaknesses in the present form (2002 version) it is not recommended as a standard.

5.1.1.2 SHOULD THE COMMONLY ACCEPTED FRAMEWORK BE BASED ON THE ECO-LIGHTHOUSE PROGRAM?

The environmental reporting framework should be suitable for all kind of companies. Since environmental work of SMEs should be strongly supported, the needs of SMEs should be paid special attention.

A simple Norwegian environmental management system the Eco-Lighthouse has grown in popularity. 616 certificates awarded (1 June 2004) in Norway show that this is a system that works. The Eco-Lighthouse Program is a tailor-made programme for environmental certification of small and medium-sized companies and public administration in Norway. (Eco-lighthouse, website 2004).

The main strategy of the programme is to systematically develop industry-specific criteria for certification. This also allows the programme to use the trade unions' experience and "advertise" certified companies within the industry. 59 industry criteria are issued. They provide brief (about 1-2 pages) descriptions on the industry specific environmental and work related problems and how these should be handled on a practical level. The documents are clear and easy to understand even without an academic degree. The industry specific environmental indicators are thus identified and concern e.g. energy and waste.

The programme provides an environmental reporting template (see Appendix 7 A) and useful forms (Appendix 7 B) which facilitate the reporting process. It is worth noting that the material is brief and suitable for SMEs.

Another strength of the programme is that a control system is implemented and the company can receive a certificate. Referring on a voluntary basis to a reporting framework like that of GRI is not sufficient for most stakeholders. An objective certificate makes the system more reliable.

The Eco-Lighthouse project is meant to help companies to start their environmental work and it is a first step towards EMAS or ISO 14001 certification. Thus it provides an incremental approach to more demanding certification systems. The weakness of the programme is that it does not provide defined levels between the first step approach and the full reporting context.

5.2.2 SUGGESTIONS FOR AN INCREMENTAL APPROACH TO ENVIRONMENTAL REPORTING

The study results indicate that the suggested commonly accepted framework should provide an incremental approach to environmental reporting. Companies should have the opportunity to report on different levels, starting with level one and then step by step proceed to the more demanding levels if they wish so. The first level should be easy to reach so that SMEs lacking resources for comprehensive reporting would be motivated to start their environmental work aiming at a recognised and verified environmental report. SMEs are often suppliers and thus reporting on Level 1 would also serve larger companies. The main difference from the existing framework is that this suggestion argues for defined levels. GRI also offers reporting on different levels, but the levels except reporting on level "In accordance" are not defined. The Eco-Lighthouse program offers an SME approach with a rather low level for reporting, but this is the only level suggested. Furthermore is suggested that level one in this model should be less demanding than reporting according to the Eco-Lighthouse. The performance indicators in this model are defined by business organisations in co-operation with other interested parties. Business specific solutions are also available in Eco-Lighthouse. The GRI

guidelines are supported by Sector Supplements which deal with sector specific issues that complement the general information elicited in the guidelines and Technical Protocols. The suggested three levels model is in its first stage and can only be characterised as an outline and an example to serve as input to further discussions.

For all three levels the reporting principles, the reporting process and basic principles for indicators and data presentation apply as presented in Table 5.2. The suggested environmental reporting levels are as follows:

Level 1 (L1)

The suggested contents of a first brief environmental report are presented below as Level 1 (L1) which can be described as a "get started" approach. Only the most important core issues are chosen to make the beginning as smooth as possible. Environmental reports according to Level 1 can be issued when a company has introduced the basic principles of environmental work. Report content is not so detailed and demanding as for upper levels.

Report content

- Vision and Strategy
- Profile of the organisation
- A brief description of key environmental effects generated by environmental loads
- Environmental policy
- Environmental performance indicators, 2-3 most important
- Defined processes for improving company activities and processes which are needed to gain the targets described in the environmental strategy.
- Description of initiation of continual improvements

Examples of suggested environmental performance indicators to start with are direct energy use and/or solid waste, since both indicators can be rather easily measured. Indicators are sector specific and presented as absolute figures. Trends are presented. Reporting can be extended gradually until Level 2 is reached.

Level 2 (L2)

The environmental policy is complemented with deeper analyses of visions and strategies. Management policies and systems and legal compliance are part of the following stage. Relationships with environmental stakeholders are explained. More indicators are reported and especially social indicators are introduced.

The following ingredients are added to Level 1:

- Management policies and systems
- Indicators presented in Level 1 reporting are presented as eco-efficiency ratios indexed to a selected year and relative to a projected goal.
- Key environmental effects. Most important core environmental indicators are presented (added to Level 1 by e.g. water consumption, materials consumption, greenhouse gas emission or ozone depleting substance emission).
- At least 2-3 social indicators are introduced according to SA8000 or GRI
- The financial implications of environmental actions
- Legal compliance
- Risk analyses
- Environmental accidents

- Relationships with environmental stakeholders (NGOs, neighbours, shareholders, customers etc.)

Level 3 (L3)

The third level report provides a more complete input/output inventory of environmental impacts of production processes and products. The financial implications of environmental actions are presented and the list of performance indicators is expanded. Level 3 includes what is demanded on Level 1 and Level 2 and can be described as follows:

- A complete report on environmental, social and economic issues
- Product impact during use. LCA (if possible to be performed)
- Reporting across the value chain (supplier and consumer related issues)

Advanced performance indicators e.g. additional indicators presented by the GRI guidelines are reported such as indicators related to ecosystems and biodiversity. Energy indicators are presented as the energy use footprint (i.e. annualised lifetime energy requirements) of major products (GRI additional indicator EN18) and indirect energy use considering all energy used to produce and deliver energy products. The GRI Guidelines (GRI 2002) can serve as a handbook for Level 3 reporting.

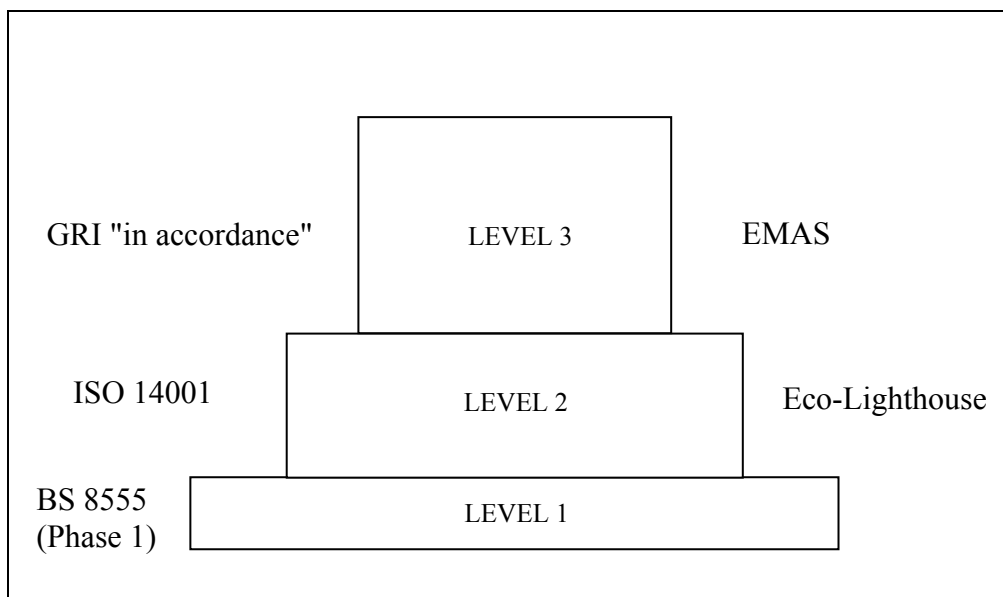


Fig 5.2 An incremental approach to environmental reporting. A comparison with existing environmental management and environmental reporting initiatives. The comparison is approximate.

Figure 5.2 presents a model that approximately describes the relation of this suggested model to existing environmental management systems and reporting initiatives. No thorough analysis is performed concerning the relation between the existing EMSs. It is difficult to compare systems that include all the three pillars of the sustainability concept with systems that are purely environmental. Further it has to be underlined that these, except GRI, are EMSs and not reporting frameworks.

The Global reporting initiative (GRI 2002) has recognised the need for an incremental reporting approach but their version of the incremental approach is designed for companies that already have gained some reporting experiences. See Figure 5.3. GRI explains that the "Environmental report" is suggested for an organisation that is experienced in producing environmental reports, the "Fragmented report" for an organisation with some systems for gathering data on economic, environmental and social performance in place and the "Limited three-dimensional report" typical of an organisation that has just begun to report and has embraced one or a few sustainability integration themes. The Level 1 report is for organisations that consider starting their environmental work and want to start reporting. The suggested incremental approaches by GRI are not defined. The Level 1 report is less demanding than the incremental suggestions by GRI.

<i>THE ENVIRONMENTAL REPORT (GRI)</i>			<i>THE FRAGMENTED REPORT (GRI)</i>		
Economic	Environmental	Social	Economic	Environmental	Social
	X			X	
	X			X	X
	X			X	X
	X		X		
	X				

<i>THE LIMITED THREE-DIMENSIONAL REPORT (GRI)</i>			<i>THE LEVEL 1 REPORT</i>		
Economic	Environmental	Social	Economic	Environmental	Social
				X	
X	X	X			

Fig. 5.3 A comparison between an incremental reporting approach presented by GRI (GRI 2002) and the Level 1 report.

The strength of the suggested three level model is that it provides reporting on different defined levels according to the needs of the stakeholders and the organisations. The first level offers reporting which can be done without too many resources and SMEs should be able to issue a Level 1 report without consultant help. This level demands less resources than the incremental reporting models by GRI. The levels are defined and the reader thus knows which level of reporting is applied. The reports should be designed so that they can be verified by a third party. The demands of the Levels should be designed so that existing work is recognised to achieve the highest possible level of compatibility. Duplication of work should be avoided.

One of the weaknesses of this suggested three level model is that it is not tested. How does it really work in practice? Another challenge is to define the performance indicators so that they are relevant for the businesses and so that reports can be compared. It is suggested that the sector specific indicators should be chosen by trade associations in co-operation with other interested parties. How many sector specific reporting models do we really need? The Eco-

Lighthouse (website 2004) has issued 59 industry criteria. Too many sector specific reporting models should be avoided.

How should the interested parties that participate in the work of defining performance indicators be chosen? Research institutes and universities should at least be part of the work to guarantee a high level of knowledge. When Level 3 is worked out the spectrum of interested parties should be broadened also to include NGOs. Ethical questions concerning e.g. animal welfare, use of stem cells etc. receive very little attention in the existing frameworks though these questions are of great interest for the general public.

This thesis does not give an answer to the number of performance indicators in Level 3. Finding the right balance between providing enough information and over reporting is not easy and should therefore be studied in more detail.

5.2.3 ENVIRONMENTAL INFORMATION ON THE WEB

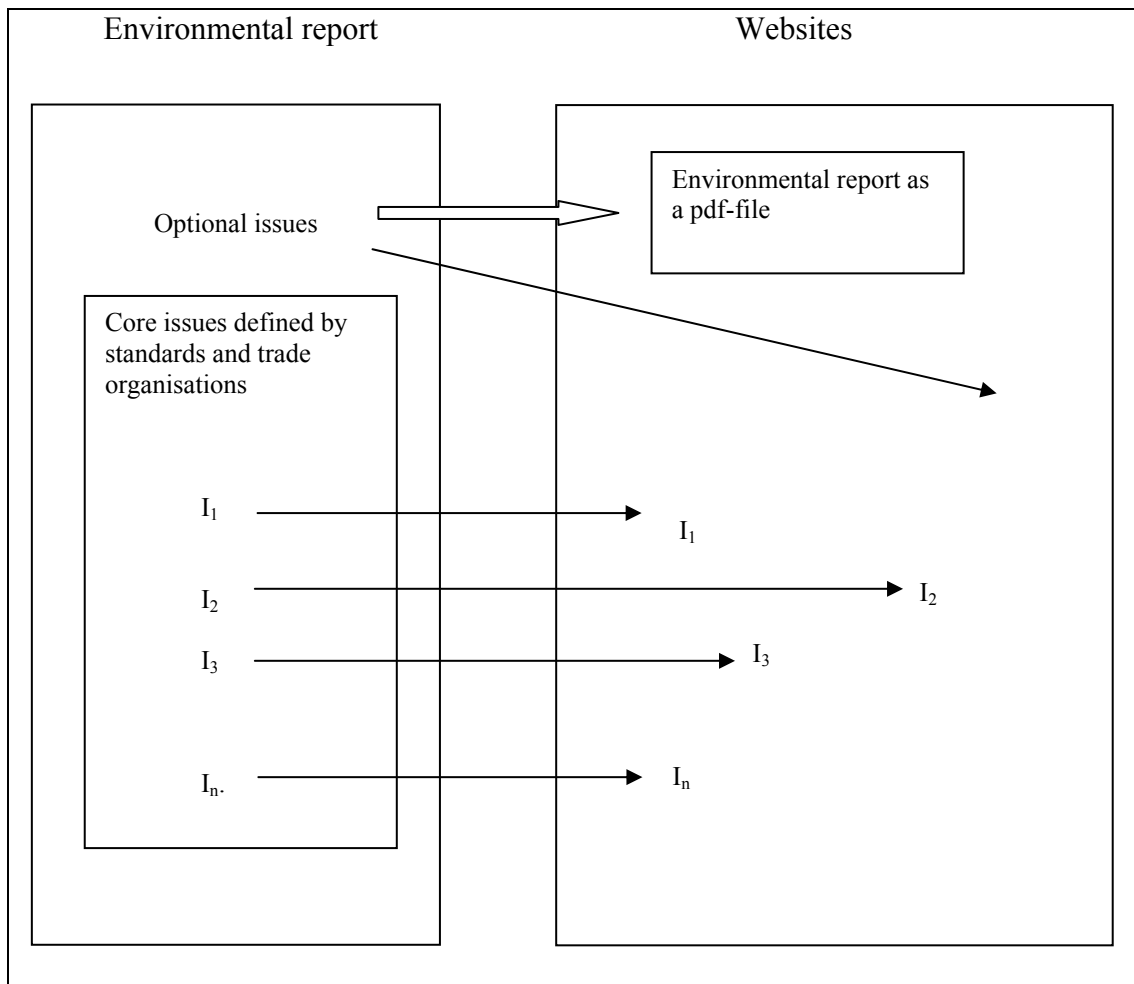


Fig. 5.4. A model presenting environmental information provided in the environmental report in relation to information on the websites of the company. $I_1 - I_n$ refer to reported issues. All reported issues are found on the web pages as well as the environmental report as a pdf-file.

It is suggested that guidelines for information on the web pages should be prepared. Information on the web is a complement to the environmental report. Clear web addresses at each reporting content are provided in the environmental report. The same brief text as in the report is found on the Internet. More information can be provided to make a deeper study of the subjects available. Such information is e.g. a more thorough presentation of pollution and environmental impact, technical details concerning environmental investments, newspaper articles on the company's environmental performance and social policy. Critical articles published should also be provided.

A model for information in the environmental report in relation to information on the web pages is presented in Fig. 5.4. The arrows show how the information in the environmental report is found on the web pages. The indexes $I_1 - I_n$ in the figure relate to core environmental issues in the report. If e.g. I_1 is "energy use", the same heading is found on the web and the web address is given in the environmental report under the heading. Besides core issues optional issues can be reported as well and those are also found on the web.

Layer n	ENERGY USE
Layer 1	Direct energy use ↓
Layer 2	Indirect energy use ↓
Layer 3	Initiatives to use renewable energy sources and to increase energy efficiency ↓
Layer 4	Energy consumption footprint ↓
Layer 5	Other indirect (upstream/downstream) energy use ↓
Layer 6	Articles, theory, emissions, link to the Kyoto protocol (http://unfccc.int/resource/convkp.html) etc.

Fig. 5.5. An example of a company's web information on energy use. The information is related to the environmental report. The example shows how the reader can proceed to deeper levels from one layer to another for more information. The examples in Layer 1 - Layer 5 correspond to the GRI environmental performance indicators EN3, EN4, EN 17, EN18 and EN19 (GRI 2002).

Stakeholder needs concerning a company's environmental information vary and a reader should therefore be given the opportunity to choose between a narrow or a comprehensive information model. Information should be presented on different levels (Layer 1 - Layer n). A deeper study concerning e.g. energy use can thus be performed and the reader can proceed step by step from brief to more comprehensive information (Layer 1 to n) according to the model presented in Fig. 5.5. It is worth noting that core issues mentioned above can be represented by different layers. Deeper levels represent optional issues especially in reports issued against Level 1 or Level 2 in the standardised framework.

A flowchart on information provided on the web pages is recommended. A flowchart serves as a list of contents and the reader immediately gets information on what issues are provided and how to easily reach the information. The reader is thus given free choice in reading the report. Some readers are only interested in a short summary of the environmental work. Others need more information and can take a deeper study using links where information on various levels is provided. The whole environmental report is also provided in a pdf-version. Frequent updating often gives rise to problems. Environmental reports and the companies' environmental information have to be regarded as official documents. Therefore updating of complementary environmental information is recommended at a maximum four times a year. Former information should be available on Internet and all information should be carefully dated.

5.3 EVALUATION OF THE STUDY RESULTS AND FURTHER RESEARCH

The aim of this study was to examine corporate environmental reporting with the objective of contributing to the development of a commonly accepted framework and guidelines for environmental reporting especially applicable for reporting beginners and for companies lacking resources for comprehensive reporting practices. The needs of SMEs were paid special attention. An important issue to settle is the need for a commonly accepted framework. There are a great number of environmental reporting initiatives but are they sufficient? Should a synthesis be worked out on existing initiatives or are further initiatives needed?

The literature review concentrates on environmental reporting terminology and on reporting initiatives. A lot of literature is produced in the environmental reporting area and one of the challenges faced in this part of the study was to define and limit the literature to the most relevant publications. The study focused on reporting terminology and reporting initiatives.

There is no commonly accepted terminology for environmental reporting. The need of common terminology is underlined by all three parts of the study. A variety of terms are used and the results indicate that there is a confusion regarding terminology. This thesis suggests that in the absence of a common definition of sustainability, corporate social responsibility and corresponding terms the reports should be called Environmental reports with a clarification that shows if other issues are reported e.g. "Environmental report - Social aspects included". The reports and terminology can thus be based on the standards of the ISO 14000 series. Environment is a well known term, but will this suggestion be accepted? The concept of sustainability is a political demand, sustainability reports have been issued for some years and the sustainability term is not completely new. It can be difficult to turn the clock back especially since the general public has a new interest in ethical questions. Anyhow, we have to strive for exactness and clarity and therefore further research concerning the terminology has to be done. It is therefore recommended that discussions to find the best terms to be standardised should continue.

The thesis examines existing reporting initiatives and has selected some for a closer study. The initiatives are many as are the written papers in the area. It was difficult to distinguish articles and reports based on solid research from the numerous points of view based on opinions. Even articles published in respected series were often similar and did not bring much new information. This literature review does not provide deep analyses, but it clearly points to the needs for a standardised framework. Existing initiatives should be compared to find similarities on which the commonly accepted framework could be based.

The empirical study of environmental reporting practices in Finnish small and medium sized companies gave interesting results concerning Finnish views on environmental reporting. Lack of resources, mainly human resources and time, were found as one of the main problems. The main reasons for issuing environmental reports are the need of an open communication to all stakeholders and demands for environmental reporting expressed by stakeholders or authorities (legislative demands). The companies face motivation problems if no one asks for a report. The findings agreed with those found in the literature. The companies expressed their views concerning environmental reporting guidelines.

The study shows that barriers and drivers to environmental reporting according to views of the Finnish SMEs do not differ from those of other European companies. Only 16 companies out of 29 answered the question. One can assume that companies interested in environmental issues were willing to participate in the research project. The results can therefore be biased indicating a greater interest concerning environmental issues than is actually the case. For more reliable results a complementary study should be performed involving a greater number of companies.

The empirical study of seven large Nordic companies showed that the amount of environmental information in environmental reports had decreased from the reports available in June 1999 to reports available in June 2002. Environment is no longer seen as a separate activity and is considered as an integral part of the whole business activity. It was expected that the information should have developed and increased during the three years, but indications for this assumption were not found in the study. Reporting on social issues had expanded which gave input to reporting guidelines. The results indicated that reporting on social issues is in some cases done at the expense of accurate environmental reporting. If this is true for a greater number of companies it is alarming and the results then underline the need for standardised reporting practices. Further studies concerning the reporting practices of the companies should be carried out. Why do some companies no longer issue environmental reports and what is the real reason for weaker reporting on the environment?

A complementary study of environmental reports 2002 of the companies was performed to examine the influence of the GRI guidelines by studying inclusions of GRI 2002 core indicators in the reports. For this purpose an evaluation tool was constructed partly based on GRI content index tables presented in the environmental reports of three award-winning Finnish companies. This part of the study did not have the objective to analyse the GRI guidelines. Preparing the evaluation tool anyhow revealed some weaknesses in the GRI guidelines. More thorough analyses on GRI should be performed so that clear strengths and weaknesses of the guidelines could be identified.

One must keep in mind that only seven companies were surveyed which is not a statistically reliable number. Further research is therefore welcomed. The companies should be randomly chosen because focus tends to be on "super" companies winning reporting awards. These companies are visible and are in the reporting front line. Furthermore wide reporting surveys are often performed by consultancies or trade associations and one must be aware of the risk of biased results in favour of the customers of these consultancies or the members of trade associations.

Suggested further studies could also concern reporting awards and the judging processes e.g. European corporate environmental reporting awards, and the Finnish environmental reporting awards. Award-winning companies' environmental performance should be studied. Stakeholders are not interested in elegant and well structured reports but they want to know if the company is environmentally responsible and "walks the talk". Reporting frameworks should be performance oriented.

The results of the literature study and the empirical studies were summarised in the form of suggestions for a standardised environmental reporting model. The model presented in this thesis gives a company an opportunity to enter into reporting practices through a simple document and then step by step enlarge the reporting if needed to a comprehensive document. The three level model for a standardised environmental reporting framework serves as an example of how flexibility can be combined with standardised rules for reporting. The model is not tested and it is therefore difficult to say how it works in practice. Part of the reporting framework is common to all companies and much of a Level 1 report can for instance be compared with other Level 1 reports of companies regardless of business sector.

It is suggested that core environmental performance indicators should be business specific and vary from business field to business field. A Level 1 environmental performance indicator should of course be one that has a strong environmental impact. Different business fields have different environmental effects. For this thesis no research has been done to find if the indicators can be easily chosen, nor any research on how the problem, for borderline cases in particular, can be solved. We should not end up with a great number of reporting varieties. Further, no clear model is presented for how the indicators are chosen and by whom. It is only suggested that trade associations in co-operation with other interested parties should present sector specific environmental performance indicators. This thesis does not give an answer to the number of performance indicators in Level 3. Finding the right balance between providing enough information and over reporting is not easy and should therefore be studied in more detail.

In the thesis a model for web reporting is presented as well. This is also given as an example of how reporting on the web could be performed. The main message is that some commonly accepted rules should be drawn up for reporting. The study results show that web reporting today is done in various ways which makes it difficult for the public to find needed information. It is suggested that further research is done in this area.

It is recommended that the suggested model should be worked out as an official standard. A brief discussion on the benefits of standards is presented. Many questions and criticism anyhow exist concerning the standardisation process. Further research should be performed concerning the standardisation process to find if it is democratic where all stakeholders have similar opportunities to participate. If not, how should the process be improved to achieve equal participation. There are some indications that companies do not always welcome new standards. If so, reasons for this should be clarified. Can differences be seen in attitudes concerning environmental standardisation in Finnish companies and other Nordic companies?

This work should be followed up by studies suggested above. An environmental reporting model on a Nordic level (e.g. as a Nordtest method, see www.nordicinnovation.net) could be worked out. This Nordic method could serve as valuable input to standardisation work and form a basis for further Nordic co-operation in the area.

The questions posed in the research have received their answers. All three parts of the study show that there is a need for a commonly accepted framework, and it is suggested that this be produced as a standard. SMEs have special needs due to their lack of resources. The suggested three level model for standardisation of environmental reporting is outlined so as to be applicable to SMEs.

6 CONCLUSIONS

This thesis studies corporate environmental reporting with the objective of contributing to the development of a commonly agreed framework and guidelines for environmental reporting. The reporting framework should be applicable to all kinds of companies and also to reporting beginners and to companies lacking resources for comprehensive reporting practices. Of special interest are small and medium-sized enterprises, SMEs. The study includes three parts; a theoretical literature review and two empirical sections.

The first empirical part is based on a survey of 16 randomly selected Finnish companies, most of which are SMEs, to find their views on environmental reporting and reporting guidelines. The second empirical part is a desktop survey of the development of environmental reporting in seven selected Nordic companies.

The study results show that there is a clear trend towards including social, economic as well as health and safety aspects in environmental reports. To underline this, companies thus call their reports Environmental, Sustainability, Corporate Social Responsibility reports etc. No commonly accepted definitions of the terms exist. This is very confusing for the reader and if one cannot agree on the meaning of a concept how can it then be measured on a truly comparable basis? There is therefore a need for a discussion concerning the terms to be used. The terms should be clearly defined to apply for environmental reporting. Complicated and vague wordings should be avoided.

On the basis of the study results it is therefore suggested that that the term sustainability and corresponding terms should be sparingly used. For describing a corporate report the sustainability terms could be used in combination with the term Environmental Report e.g. "Environmental Report - Social aspects included" or "Environmental Report - Health and safety aspects included". This description of the report could have a standardised place on the cover page of the report e.g. as a header leaving space for explanatory headings. Thus exactness and clarity could be combined with flexibility.

A great number of organisations have contributed to the process of developing frameworks for environmental reporting. Many guidelines and recommendations thus exist but no commonly accepted framework. In this sense there is no urgent need for new guidelines. These guidelines should be considered when a commonly accepted framework is developed. Compatibility is underlined so that duplication of work can be avoided.

The study of the Finnish companies' reporting practices and views indicated an interest in environmental issues though only a few had issued an environmental report. Companies with more than 100 employees were more willing to provide environmental information than smaller ones. One of the main reasons for not reporting was lack of resources mainly human resources and the main reasons for issuing an environmental report were the need of open communication to all stakeholders and legal or other requirements. The companies face motivation problems if no one asks for a report. As regards reporting guidelines the companies stated that the guidelines should be brief, practical, concrete and sector specific. Comprehensiveness and complexity should be avoided.

The study of the seven large Nordic companies' environmental reporting trends showed that all companies do not tend to issue a yearly stand-alone environmental report. Environmental information is e.g. included in the annual report. Reasons mentioned for not issuing a stand-alone environmental report were e.g. lack of a concrete programme to manage environmental parameters and that environment is no longer seen as a separate activity and is thus considered as an integral part of the business. The reports studied are very different and it is thus difficult to compare them.

The amount of environmental information provided in the reports has decreased. The study does not identify clear changes in reported environmental indicators. A trend towards sustainability reporting can however be seen. Companies declare that they are committed to sustainable development but reporting on social indicators is somewhat vague. The results indicate that reporting on social indicators has occurred at the expense of reporting on the environment, which is not to recommend. Companies should continue to report on environmental issues based on well developed practices. Reporting on sustainability issues should be regarded as a welcome complement.

An influence of the GRI guidelines can be seen in the reports of the Nordic companies studied. The companies have improved their social reporting. The study results show some weaknesses in the GRI guidelines. The guidelines are comprehensive, the companies have problems in interpreting the indicators and they can choose the level of reporting which gives a large variety in reports which cannot be compared. The GRI guidelines are process oriented. It is recommended that environmental reporting guidelines should be performance oriented.

This work shows that there is a need for a commonly accepted environmental reporting framework. It is therefore suggested that the environmental reporting framework should be standardised. To guarantee unbiased work it is important that a standardisation organisation is responsible for the development of the framework. The standard should be applicable to all companies regardless of present reporting level, which includes beginners and companies lacking resources for work at greater depth. The study results also underline that the needs of SMEs should be considered when preparing the framework. The model for reporting should therefore provide different levels according to the companies' needs.

In this work a three level model for a standardised environmental reporting framework is suggested. It serves as an example of how flexibility can be combined with standardised rules for reporting. It shows how a company can start from Level 1, which is the most simple level and then proceed to more demanding ones (Level 2 and Level 3) according to the needs. Part of the reporting framework is common to all companies, but it is suggested that core environmental performance indicators should be business specific.

The study also shows that environmental information on the web varies a lot and that no standard has gained ground to facilitate the process of finding information. Simple commonly accepted guidelines for environmental information on the web should therefore be prepared. A model on environmental information on the web in correlation to the environmental report is presented. Brief information in the report can be supplemented by information of greater depth on the web. The reader can thus proceed from information Layer 1 to deeper ones according to the interest.

While the initial findings of this study highlighted some challenges in the environmental reporting area, further research is necessary. The results underline the need to standardise environmental reporting practices. While the companies are continuing their environmental reporting processes and further research is going on in the reporting area every initiative on co-ordinating research results is welcomed.

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APPENDICES

- 1 A Frågeformulär (questionnaire in Swedish).
- 1 B Kyselylomake (questionnaire in Finnish).
- 2 Answers provided (in Finnish or Swedish) by Finnish SMEs concerning environmental reporting. Answers are presented here to the questions 7-20. The survey was performed in June to July 2002.
- 3 Description of the Finnish companies surveyed, which was performed in summer 2002 by sending the companies a questionnaire and by visiting the companies' websites (company name, website 2002).
- 4 Present environmental objectives and environmental activities of Finnish companies most of which are SMEs. The survey was performed in summer 2002 by sending the companies a questionnaire and by visiting the companies' websites (company name, website 2002).
- 5 Comparison of sustainability indicators presented in environmental reports of Proventia Group, Kesko and Wärtsilä with the sustainability indicators recommended in the guidelines of the Global Reporting Initiative (GRI 2002). The comparison is based on the information provided in the GRI content index tables of the reports.
- 6 GRI CONTENT INDEX TABLE, A comparison of sustainability indicators included in the environmental reports of AstraZeneca, Perstorp and Stora Enso with the sustainability indicators recommended by the Global Reporting Initiative (GRI 2002). The indicators are partly summarised and headed as suggested by Proventia Group, Kesko or Wärtsilä in their GRI content index tables to give an overall picture of the inclusion of the GRI indicators.
- 7 A The Eco-Lighthouse template for environmental reports.
- 7 B Miljøfyrtårnprosjektet, Kartlegging av energibruk og en øk - sjekklister (in Norwegian).
- 8 Some organisations that have issued environmental reporting guidelines or recommendations on Internet for free downloading. (Accessed August 2003).

APPENDIX 1A

Frågeformulär TKK- Puu-LT-A1-0602

Små och medelstora företags miljörapportering

Laila Törnroos, Tekniska högskolan, Esbo 2002

Tfn 09-455 46 00 (tjänst), 09-804 19 08 (hem)

Holmängsgränden 4 A, 02240 Esbo

E-post: laila.tornroos@nordtest.org

A

- 1 Företagets namn och bransch:
- 2 Ert namn och ställning inom företaget
- 3 Företagets/era kontaktuppgifter:
- 4 Personalens storlek:

B

- 5 Företagets nuvarande miljömål

- 6 Företagets nuvarande miljöarbete

C

Har företaget publicerat miljöinformation i sin årsrapport?

JA:

- 7 I följande årsrapporter, år:

- 8 Varför och i hur stor omfattning har miljöinformationen blivit en del av årsrapporten?

- 9 Kan ni ange de största problemen med att ta upp miljöinformation i årsrapporten

NEJ:

- 10 De viktigaste orsakerna till att ni inte tagit upp miljöinformation i årsrapporten

- 11 Har ni för avsikt att publicera en skild miljörapport? Varför? / Varför inte?

D

Har ert företag publicerat en miljörapport?

Ja:

12 Åren:

13 Varför har ni publicerat en miljörapport?

14 Hur omfattande är er miljörapport? Antal sidor, ämnen ni behandlat osv.

15 Är er rapport en ren miljörapport eller har ni också behandlat aspekter som berör socialt ansvar? Vilka aspekter? Från och med när?

16 Kan ni ange de största svårigheter med att uppgöra rapporten

Nej:

17 Kan ni ange huvudorsakerna till varför ert företag inte har publicerat en miljörapport?

18 Hurudan hjälp skulle ni behöva vid uppgörandet av en miljörapport?

E

19 Ifall en guidebok om miljörapportering för små och medelstora företag skrivs, så vad borde den innehålla. Hurudana instruktioner skulle ni önska? Åsikter, idéer.

20 Övrigt

APPENDIX 1B

Kyselylomake TKK- Puu-LT-A1-0602

PK-yritysten ympäristöraportointi

Laila Törnroos, Teknillinen korkeakoulu, Espoo 2002

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Holmanniitynkuja 4 A, 02240 Espoo

Sähköposti: laila.tornroos@nordtest.org**A**

1 Yrityksen nimi ja toimiala:

2 Vastaaajan nimi ja asema yrityksessä

3 Yrityksen / vastaaajan yhteystiedot:

4 Henkilöstön lukumäärä:

B

5 Yrityksen tämänhetkiset ympäristötavoitteet

6 Yrityksen tämänhetkiset ympäristöhankkeet

C

Onko yritys julkaissut ympäristötietoa toimintakertomuksessa?

Kyllä:

7 Toimintakertomuksissa vuosina:

8 Miksi ja kuinka laajassa mittakaavassa ympäristöraportointi on tullut osaksi yrityksen vuosikertomusta?

9 Voisitko luetella suurimmat toimintakertomuksen ympäristötietojen laatimisvaikeudet

Ei:

10 Tärkeimmät syyt siihen miksi ette ole liittäneet ympäristötietoa vuosikertomukseenne

11 Aiotteko siirtyä erilliseen ympäristöraportointiin? Miksi? / Miksi ette?

D

Onko yrityksenne julkaissut erillisen ympäristöraportin?

Kyllä:

12 Vuosina:

13 Miksi olette julkaissut ympäristöraportin?

14 Miten laaja ympäristöraporttinne on? Sivuja, asioita joita olette käsitelleet jne.

15 Onko raporttinne pelkkä ympäristöraportti vai oletteko liittäneet siihen sosiaalisen vastuun näkökulmia? Mitä näkökulmia? Mistä saakka?

16 Voisitteko luetella suurimmat raportintekovaikeutenne

Ei:

17 Voisitteko luetella pääsyyt siihen miksi yrityksellänne ei ole ympäristöraporttia?

18 Minkä tyyppistä apua tarvitsisitte ympäristö-raportin laatimiseen?

E

19 Jos/kun ympäristöraportoinnin ohjekirja pk-yrityksille laaditaan niin mitä sen pitäisi sisältää? Minkä tyyppisiä ohjeita toivoisitte? Mielenpitoja ja ideoita.

20 Muuta

APPENDIX 2

ANSWERS PROVIDED (IN FINNISH OR SWEDISH) BY FINNISH SMEs CONCERNING ENVIRONMENTAL REPORTING. ANSWERS ARE PRESENTED HERE TO THE QUESTIONS 7-20. THE SURVEY WAS PERFORMED IN JUNE TO JULY 2002. THE QUESTIONNAIRE IN ENGLISH ON PAGE 38.

C Onko yritys julkaissut ympäristötietoa toimintakertomuksessa?

- On, esittelynomaisesti
- Kyllä: Vuosikertomuksessa hyvin yleisesti mm maininta ympäristöluvasta ja ympäristöasioiden hallinnasta.

Kyllä:

7 Toimintakertomuksissa vuosina:

- Toiminnan luonteesta johtuen ympäristöasioita on käsitelty jo 1980-luvulta lähtien.
- Ennen vuotta 1998.
- Parin kolmen edellisen vuoden aikana
- Toimintakertomuksissa vuosina: n. 1998-2001

8 Miksi ja kuinka laajassa mittakaavassa ympäristöraportointi on tullut osaksi yrityksen vuosikertomusta?

- Yhtiö on julkaissut vuodesta 1996 lähtien erillisen ympäristöraportin koskien Riihimäen päätoimipaikkaa.
- Pääpiirteissään, hyvin lyhyesti kuvattu toimintavuoden ympäristötoimia
- Yritys on pörssinoteerattu. Halutaan antaa sidosryhmille kuva siitä, että ympäristöasiat on huomioitu liiketoiminnassamme eikä toiminnassa esiinny suuria ympäristöriskejä. Sähkökäyttöiset trukit katsotaan yleisesti ympäristöystävällisiksi.

9 Voisitteko luetella suurimmat toimintakertomuksen ympäristötietojen laatimisvaikeudet

- Pääallekkäisten tietojen kirjoittaminen on vaikeahkoa. Tarkoituksemme on, että vuosikertomuksessa ympäristöasioista kerrotaan lyhyesti ja toiminnan kannalta tärkeimmät asiat, Toki viime vuonna tuli voimaan EY:n komission suositus 2001/453/EY, joka asetti tiettyjä ympäristöasioihin liittyviä vaatimuksia.
- Ympäristötilastot valmistuvat talouslukuja hitaammin. Toimintakertomuksen paisuminen.
- Sidoryhmien moninaiset vaatimukset, jotka voivat olla ristiriitaisiaakin.

10 Tärkeimmät syyt siihen miksi ette ole liittäneet ympäristötietoa vuosikertomukseenne

- Koska se ei ole erillistoimintaa
- Lääkekehitysyhtiön, jossa suurin osa toiminnoista on lisäksi ulkoistettu ei ympäristö- eikä muutakaan jätettä synny merkittäviä määriä, joten asia ei ole merkitykseltään sellainen että siitä olisi syytä erikseen mitään mainita.
- Miljöarbetet ligger ännu startgroparna och vi vill ha mer fakta och inkörda rutiner innan vi rapporterar i årsberättelsen. År 2001 innehåller årsberättelsen vår kvalitets- och miljöpolicy.
- Ympäristötilastot valmistuvat talouslukuja hitaammin. Toimintakertomuksen paisuminen.
- Vuosikertomus laaditaan lähinnä viranomaisia varten, ympäristötietojen liittämällä vuosikertomukseen ei katsota olevan tarvetta.
- Pidämme erillistä raporttia parempana.
- Ingen instans fordrar det; vari ligger mervärdet av att publicera en miljörapport?
- Ympäristöjärjestelmän toiminnan puuttumisen vuoksi, emme ole mitanneet ympäristöasioita laajasti joten olemme myös jättäneet asian pois vuosikertomuksestamme.
- Vuosikertomus on kovin lyhyt, eikä sitä julkaista. Ainoa "saasta" jota toimistomme tuottaa on paperi. Se toimitetaan keräykseen.
- Perustietoa: Hotelli Korpilampi kuuluu Lomaliittokonserniin kuuluvaan Savonlinnan Kylpylaitos Oy:hyn. Ainoastaan Lomaliitto julkaisee vuosikertomusta ja yksittäisillä toimipaikoilla ei ole omia vuosikertomuksia olemassakaan. Konserni on julkaissut kyllä tärkeimmiksi arvoikseen ihmisystävällisyyden, turvallisuuden sekä ympäristöystävällisyyden. Näiden arvojen toteutumista ei kylläkään käsitellä yhdessäkään Lomaliitto konsernin vuosikertomuksessa.
- Tähän saakka se ei ole ollut välttämätöntä
- Toimintamme ei edellytä ympäristötoimintaan liittyviä lupia kuten kemikaali- tai ympäristölupia eli mitään erikoista tarvetta ei ympäristöraporttiin ole ollut.

<ul style="list-style-type: none"> - Företaget saknar målsättningar för miljön. - Emme ole nähneet sen tekemisestä saavamme lisäarvoa toiminnallemme
<p>11 Aiotteko siirtyä erilliseen ympäristöraportointiin? Miksi? / Miksi ette?</p> <ul style="list-style-type: none"> - Varmaankin, heti kun on lisävoimia. - Lääkekehitysyhtiön, jossa suurin osa toiminnoista on lisäksi ulkoistettu ei ympäristö- eikä muutakaan jätettä synny merkittäviä määriä, joten asia ei ole merkitykseltään sellainen että siitä olisi syytä erikseen mitään mainita. - Ingen konkret diskussion än. Se svaret ovan. En rapportering är resurs- och tidskrävande, men inom några år kommer miljörapporter att presenteras. - Emme. Yrityksessä on toimiva sisäinen raportointi joka kattaa myös ympäristöasiat. Erillinen ympäristöraportointi ei tuo lisäarvoa. - Inte inom närmaste framtid. EPD kommer att införas i www.miljöbanken.se. - Emme ole harkinneet asiaa. - Ei suunnitelmissa lähitulevaisuudessa. Vaatisi paljon systemaattisemman lähestymistavan ja resursseja ympäristöasioiden hoitoon. Asiakkaat eivät ole kovin sensitiivisiä asialle eikä alalla ole suuria ympäristöhaasteita kuten prosessiteollisuudessa on ollut. Toimimme business to business alalla - Ei, ks. edellinen vastaus (Vuosikertomus on kovin lyhyt, eikä sitä julkaista. Ainoa "saasta" jota toimistomme tuottaa on paperi. Se toimitetaan keräykseen - Kyllä oma raportti olisi hyvä olla olemassa. Sehän voisi koskea ainoastaan meidän hotellia ja olla nimenomaan vain ympäristöasioita käsittelevä vapaamuotoinen vihkonen. Viimeksi mainitsemani projekti (Eis) sisältää mm. juuri tällaisen ympäristöraportti-osion - Kyllä. Ympäristölupaprosessin myötä se tulee pakolliseksi - Ei ainakaan tässä vaiheessa edellä mainitun takia. - Nej, eftersom vårt företag är ett serviceföretag så har vi inte exempelvis för miljön skadligt avfall och därmed har det hittills inte varit relevant med en miljörapport. - Madollisesti jossain vaiheessa kun näemme siitä olevan meille hyötyä.
<p>D Onko yrityksenne julkaissut erillisen ympäristöraportin?</p> <p>Kyllä:</p> <p>12 Vuosina:</p> <ul style="list-style-type: none"> - Vuodesta 1994 lähtien olemme julkaisseet EMAS-raportin. Ensimmäisen julkaisupvm oli 18.3.1996 - Painettu julkaisu vuosina 1998 ja 1999 ja jatkossa sähköinen ympäristöraportti yhtiön kotisivuilla. - Vuosina: 1997, 1999
<p>13 Miksi olette julkaisut ympäristöraportin?</p> <ul style="list-style-type: none"> - Tärkeimpiä tavoitteitamme on ollut avoimen tiedottamisen lisääminen ja lisäksi oman raportointimme kehittäminen. - Kysyntää on ollut. - Tiedottaaksemme ja havainnollistaaksemme ympäristö- ja turvallisuuspolitiikkamme ja -vastuumme käytännön toteutuksia sidosryhmillemme. On myös sertifioitua, integroidun ISO 9001-laatu järjestelmämme ja noudattamamme kemianteollisuuden Responsible Care-Vastuu Huomisesta-ohjelman mukainen toimintamalli
<p>14 Miten laaja ympäristöraporttinne on? Sivuja, asioita joita olette käsitelleet jne.</p> <ul style="list-style-type: none"> - Raporttimme ovat olleet hyvin laajoja. EMAS-vaatimusten lisäksi olemme käsitelleet mm. T&K- ja talousasioita, sekä sosiaaliseen vastuuseen liittyviä asioita. Samoin olemme käyttäneet suurta fonttikokoa ja paljon valokuvia, myös luonnosta. - Noin 20 sivua. - 1997: ympäristöesite, 14 sivua, 1999: ympäristö- ja turvallisuusselonteko, 14 sivua
<p>15 Onko raporttinne pelkkä ympäristöraportti vai oletteko liittäneet siihen sosiaalisen vastuun näkökulmia? Mitä näkökulmia? Mistä saakka?</p> <ul style="list-style-type: none"> - Sosiaalinen vastuun näkökulmaa on kuvattu vuoden 1998 raportissa (julkaistu 1999) ja harkitummin asiaan paneuduttiin vuosi sitten, eli vuosien 2000 ja 2001 raporteissa. Raporttimme on kuitenkin EMAS-selonteko, jota on täydennetty sosiaalisen vastuun periaatteilla ”vapaasti soveltaen”. - Pelkkä ympäristöraportti. - Sosiaalisen vastuun näkökulma liitetään seuraavaan raporttiin, joka julkaistaan v. 2002 lopussa.

16 Voisitteko luetella suurimmat raportintekovaikeutenne

- Kaikesta huolimatta tiedon keruu ja sen todentaminen – vaatii suunnittelua, huolellisuutta ja systemaattisuutta. Toinen vaikeus on resurssipula, kaikki on tehty otona ja tekstin viimeistelyn vaikeus ja ajan puute näkyy varmaan jokaisessa julkaisussa. Periaattemme on ollut käyttää mahdollisimman vähän ulkopuolista apua, jo kustannussyistä.

Toisaalta olemme osallistuneet valtakunnallisiin ympäristöraportointikilpailuihin ja niiden vaatimukset kasvavat nopeasti. Pienten yritysten on todella vaikea pysyä mukana ja tuntuu ettei vaatimuksissa ”näy perälautaa”. Siksi olemme EMAS-vaatimusten lisänä olevaa tekstiä oman näkemysksemme mukaan.

Tosin olemme luettaneet tiettyjä tekstejä ulkopuolisilla asiantuntijoilla parina vuonna.

- Raportin laatiminen sellaiseen asuun, että se kiinnostaa lukijaa, on helppolukuinen ja kuitenkin riittävän informatiivinen ja vastaa standardien vaatimuksia.

- Ehkä ensimmäisen tekeminen on juuri vaikeinta kun ei oikein osaa poimia näin laajasta tietomäärästä sitä oleellista ja kiinnostavinta.

17 Voisitteko luetella pääsyty siihen miksi yrityksellänne ei ole ympäristöraporttia?

- Ei ole ihmistä joka ehtisi

- Lääkekehitysyhtiön, jossa suurin osa toiminnoista on lisäksi ulkoistettu ei ympäristö- eikä muutakaan jätettä synny merkittäviä määriä, joten asia ei ole merkitykseltään sellainen että siitä olisi syytä erikseen mitään mainita.

- Tidsskäl. Åtminstone första gången en miljörapport skall publiceras är det mycket material att ta fram och layout m.m. skall bestämmas.

- Yrityksessä käsitellään säännöllisesti ympäristöasioita. Erillinen ympäristöraportointi ei tuo lisäarvoa tällä hetkellä.

- Ingen instans fordrar; Vari ligger mervärdet av publicering?

- Kts. Vastaus edellä. (emme ole harkinneet asiaa)

- Asiakkaille on riittänyt suppea selvitys ympäristöasioiden hoidosta. Katso kohta 11.

- Katso C-kohta (Vuosikertomus on kovin lyhyt, eikä sitä julkaista. Ainoa "saasta" jota toimistomme tuottaa on paperi. Se toimitetaan keräykseen.)

- Hotellissa ympäristöasioista vastaa varsinaisesti vain yksi henkilö, jolla on muitakin vastuualueita.

Ensimmäisen raportin työstämiseen vain ei ole ollut aikaa, vaikka halukuutta ja tietoa kyllä löytyy.

- Tähän asti olemme vastanneet asiakkaiden kysymyksiin suoraan kun niitä ilmaantuu.

- Edellä mainitun syyn takia ei tarvetta ole tullut mistään suunnasta.

- Se svaret i punkt 11. Nej, eftersom vårt företag är ett serviceföretag så har vi inte exempelvis för miljöns skadligt avfall och därmed har det hittills inte varit relevant med en miljörapport.

- Emme vain ole tehneet päätöstä raportin tekemisestä, emmekä myöskään saavamme siitä vielä lisäarvoa toiminnallemme.

18 Minkä tyyppistä apua tarvitsisitte ympäristö-raportin laatimiseen?

- Ihmisen

- Råd och rön, exempel på vad som skall lyftas fram i en miljörapport. Praktiska exempel på lyckade miljörapporteringar.

Eftersom vi ännu inte praktiskt är i det läget att vi skall presentera miljöarbetet i en miljörapport så är det svårt att ta ställning till vilken hjälp vi skulle ha nytta av i dagsläget.

- Vårt företag gör sin egen miljörapport

- Malleja miten niitä on tehty vastaavantyyppisissä teollisuudessa

- ks. ed. vastaus (Vuosikertomus on kovin lyhyt, eikä sitä julkaista. Ainoa "saasta" jota toimistomme tuottaa on paperi. Se toimitetaan keräykseen.)

- Valmis peruskaava voisi olla hyvä ts. mitä asioita ja missä järjestyksessä raporttiin olisi hyvä laittaa. Senhän tulisi olla myös helppolukuinen eikä liian raskas opus.

- Ympäristöraportin asiasisältö ryhmitettynä

(vaikka sisällysluettelo, jossa pääotsikko ja sen alla luetteloituna asiat, jotka aihepiiriin kuuluvat)

- Ei osata sanoa, koska ympäristöraportin laatimista ei ole mietitty.

- Uskoisin meillä olevan tietoa riittävästi jos päätämme tehdä ympäristöraportin

19 Jos/kun ympäristöraportoinnin ohjekirja pk-yrityksille laaditaan niin mitä sen pitäisi sisältää? Minkä tyyppisiä ohjeita toivoisitte? Mielenpitoita ja ideoita.

-yhteiskuntavastuu; materiaali tuotannosta alkaen pitää tietää koko prosessi (meillä tunnetaan jopa perheet jotka viljelevät biologisesti kasvatetun ja käsinpoimitun puuvillan).

- työntekijöiden ikä, koulutus ym. valmistusmaissa (meillä koko tuotanto Mikkelissä) ja olosuhteet (liitot ym), käytetyt väriaineet, tuotteiden koko elinkaari, tuotteiden kulu per käyttökerta

- Esim. raportin mallipohjia, tärkeimpiä käsiteltäviä asioita, sekä perusteluja näiden sisällyttämiseksi raporttiin
- Ett underlag där olika miljöparametrar kan plockas in för att få dem i presentabel form. Ofta finns en hel del miljöarbete inom företagen redan för att det ekonomiskt har varit lönsamt att införa det, men det kanske glöms bort vid redogörelsen eftersom innehållet i redogörelsen ofta bygger på statistik av förbrukningsmaterial (olja, vatten m.m.). Ett bra sätt kunde vara ett frågeformulär vilket beaktar olika miljöaspekter och som företagen fyller i, där skulle allt basmaterial ligga för att tjäna som grund för redovisning och vidare bearbetning.
- Opas varmaan olisi hyvä. On helpompi tehdä, kun on malli/malleja. Yhtenä pilarina voisi olla ISO 14001 ja sos. Vastuusta meille kaikilla tärkeimpiä asioita. Enkä vähäisenä pidä raporttimme arvoa sidosryhmillekään.
- Tietoa siitä miten käytännössä täytetään EU-direktiivien asettamat vaatimukset.
- Standardien vaatimukset raportoinnille; järjestöjen yms. yleiset suositukset raportoinnille; käsitemaailmaan liittyviä selvennyksiä/esimerkkejä
- Lätta att förstå; skrivet på "vardagsspråk" så att konsult icke behövs för att tyda skriften
- Käsittäakseni ympäristötoiminnassa tavoite olisi se että saastuttavaa toimintaa ei ole, lajittelu itsessään ei vähennä ympäristökuormitusta. Eli hyvä olisi sanoa selvästi se, että raportointi ei auta ympäristön tilaa vaan itse toiminta (jossa meilläkin on vielä paljon tekemistä)
- Miten mitataan, yleensä näitä ovat sähkö, vesi ja lämmitys sekä tuotannon koneet ja prosessit. Säästövinkkejä. Erilaisia raporttimalleja erilaisille teollisuuden aloille. Konepajan malli, Kokoonpanotehtaan malli, elektroniikkatehtaan malli jne. suppeat ja laajat sen mukaan miten sensitiivisiä asiakkaat tai suuri yleisö ovat asialle ja tietenkin onko toiminnassa suuret vai pienet ympäristöriskit.
- No ideas? Mistä meidänlaisemme yrityksen tulisi raportoida
- Vaikea sanoa, mutta ehkä voisi olla ohjeita miten laajasti asioita tulee käsitellä ts. ettei kerrota liian vähän tai liian paljon. Luettavuus ja kiinnostavuus pitäisi säilyttää lukijan kannalta. Vaaranahan on että kerrotaan kuivalta tuntuvaa numerotietoja ja esitetään käppyröitä tai tolppia. Mielestäni ympäristöasiat edustavat ns. pehmeitä arvoja ja niiden esittämisessä voitaisiin noudattaa vapaampaa ja viihdyttävämpää muotoa kuin esim. taloudellisen kehityksen tai muun yritystoiminnan esittelyssä.
- Ei osata sanoa.
- Upplägning av miljöplanering, rapportering och uppföljning.
- Ohjekirjan tulisi olla mielestäni raporttimuodossa, joka on laadittu kuvitellulle yritykselle. Kussakin kohdassa pitäisi olla listattu muutamia asioita jota kyseinen kohta voisi koskea, ja yhdestä kohdassa mainitusta asiasta olisi esimerkki, millainen sen muoto voisi olla. Näin ohjekirja voisi palvella erilaisia sekä eri alojen yrityksiä parhaiten.

20 Muuta

- Miljörapporter kan se ut på många sätt och det är upp till företagen att presentera sitt miljöarbete. Det innebär att det är svårt att jämföra olika företags miljöprestanda, samma problem föreligger med ISO 14001-certifierade företag –det säger ingenting om den egentliga miljöprestandan. För att faktiskt kunna jämföra företags miljöprestanda borde miljörapporter ha ett grundkoncept i fråga om vad som skall ingå i dem.
- ”pk-yritykset” erillisenä kohderymänä ei välttämättä ole relevanttia jaottelua
- Substansen är kanske tom obefintlig men situationen är den är. Kanske framtiden medför andra krav men tänk själv Kesko kommer ut med en stor Samhällsrapport men vem läser den? Den kostar massor att publicera. Vem skulle vara intresserad av vår miljörapport kanske en liten skara aktivister som dessutom skulle kritisera allt. Detta betyder inta att miljöjobbet skulle vara onödigt tvärtom. Definition på eko-effektivitet hitar du överallt t.ex. på vår hemsida om så behövs. En grön liten bok med klara anvisningar 1.2.3.4.5 om hur och om vad man bör rapportera vore kanske helt på sin plats.

APPENDIX 3

Description of the Finnish companies surveyed, which was performed in summer 2002 by sending the companies a questionnaire and by visiting the companies' websites (company name, website 2002).		
Company	Number of employees	Description
Anne Linnonmaa OY	38	Anne Linnonmaa Oy produces and markets Anne Linnonmaa Ecological Fashion's own knitwear products. The company is situated in Mikkeli. All products are made in Finland. The share of exports is approximately 20 %, Germany being the main export market.
BioTie Therapies Ltd	70	BioTie Therapies Ltd is a pharmaceutical company in selected therapy areas. BioTie develops novel and patented pharmaceuticals. The focus is on inflammation, thrombosis and cancer. BioTie is situated in Turku.
Chips Abp	100	Chips Abp is a snack and food company with the Nordic countries and the Baltic States as its home market. Chips is situated in Godby on the Åland Islands.
Ekokem Oy Ab	200	Ekokem Oy Ab is a company specialising in the treatment of hazardous wastes. The main activities of Ekokem are utilisation of hazardous, industrial and municipal wastes, as well as various other services in the field of waste management. The company won an award for the best Finnish environmental report in the series for SMEs in 2001 (Lovio and Tenkamaa 2001). The company has gained experience from environmental reporting and was therefore selected as a reference company in this study. Comments from Ekokem were especially looked forward to. Ekokem is situated in Riihimäki.
Espoon Sähkö plc (now E.ON)	410 (2001)	Espoon Sähkö plc produces, acquires and sells electricity, district heating and natural gas. Espoon Sähkö is divided into six units: the electricity, district heating, network, generation, corporate development and corporate services and controlling units. Espoon Sähkö is situated in Espoo.
Genelec Oy	SME*)	Genelec is a manufacturer of active studio monitors and home theatre loudspeakers. Genelec is an SME company. The company is situated in Iisalmi. *)No number for the employees was given in the enquiry, nor on the web pages.
Kiilto Oy	219	Kiilto is a chemical factory and its operations consist of developing, manufacturing and marketing adhesives and related products. The factory and head office are located at Lempäälä, near Tampere. The company's quality system includes the environmental system according to the ISO 14001 standard, the safety system according to BS 8800 standard and the obligations and principles of the international chemical industries' "Responsible Care" programme.
Oy Lival Ab	160	Lival is manufacturer of lighting equipments. The company is based in Sipoo near Helsinki. The company has sales outside Finland accounting for more than 90 %. Lival is certified to the ISO 14001 standard, the SafetyCert Standard for safety and care for workers and the SA8000 standard of social accountability.
Orfer Oy	75	Orfer is a company specialising in steel products and in the production of components for industry and market. Orfer is situated in Orimattila.

Saanio & Riekkola Consulting Engineers	23	Saanio & Riekkola Consulting Engineers is a consulting company specialising in rock and civil engineering as well as research into, and design of, underground nuclear waste repositories. The consulting company is situated in Helsinki.
Savonlinnan Kylpylaitos, Hotelli Korpilampi	60*)	The hotel Hotelli Korpilampi, which is part of the Savonlinnan Kylpylaitos, is situated in Espoo. The company has participated in several studies concerning environmental issues (see e.g. Pohjola 1999). *). The number of personnel is about 60 plus temporary staff.
Stala OY	180	Stala Oy is part of the Finnish Stala Group, with its headquarters and production facilities located in Lahti. The company exports its products to 35 countries. Stala produces stainless steel products like kitchen sinks and waste sorting units. Stala is certified to ISO-14001.
Temet OY	60	Temet is producing standard protective equipment and systems. The Temet product range is designed and tested to shield the shelter against the destruction effects caused by modern warfare or warlike situations. Temet is situated in Helsinki.
Veritas	270	Veritas is an independent insurance group providing SMEs and private persons with services relating to banking, insurance and investment banking operations. Veritas has offices all over Finland with the head office placed both in Helsinki and Turku.
Virke Oy	470	Virke is a manufacturer of clothes. The factories in Finland are located in Orimattila and Hämeenlinna.

APPENDIX 4

Present environmental objectives and environmental activities of Finnish companies most of which are SMEs. The survey was performed in summer 2002 by sending the companies a questionnaire and by visiting the companies' websites (company name, website 2002).

Companies	Environmental objectives	Environmental activities	Reporting
Anne Linnomaa OY	Minimising amount of waste (cutting waste)	The whole production is based on ecological processes and the business is founded on ecological and sustainability thinking.	No environmental information in the annual report. No environmental report. Brief environmental information concerning raw materials and eco labelling is available on the web
BioTie Therapies Ltd	The objectives are not defined	No present activities	No environmental information in the annual report No environmental report.
Chips Abp	The environmental objectives concern energy and water usage, composting and the utilization of compost products as soil improvers, transportation and optimising the function of the treatment plant.	The ISO 14001 project at the company had led to greater awareness of the environmental aspects. Greater demands have been made on suppliers of raw materials and on transport companies. The processes are optimised e.g. concerning exact dosage of raw materials, energy and water usage and purification processes.	Environmental information is included in the annual report 2001. No environmental report.
Ekokem Oy Ab	Main objectives are to make the processes more eco-efficient especially concerning waste and energy. Safety aspects are prioritised.	Operating procedures have been externally assessed against ISO 14001 and a certificate was issued by the Finnish Standards Association (SFS). The environmental system is also based on the International Chamber of Commerce Sustainable Development and the Chemical Industry's Responsible Care programmes.	Environmental information is presented in the annual reports since 1980. EMAS reports are issued since 1996. Environmental reports published. CSR aspects are noted in the report from 1998 and the issue has been deepened since. Environmental information is available on the company's websites.
Espoon Sähkö ple (now E.ON Finland)	The environmental policy includes commitments to environmental management, compliance with legal requirements, continuous development of operations, communication, training of the personnel and includes partnership relations.	Espoon Sähkö is in the process of certification of their environmental management system. They are working on the environmental impact assessment for a new works, ground coverage and environmental guidelines for procurements. Combustion tests are performed.	Espoon Sähkö has provided environmental information in their annual reports issued before 1998. The year for the first annual report including environmental information was not presented. The company has issued environmental reports as printed copies in 1998 and 1999 and since then electronically on their web pages.
Genelec Oy	Environmental assessment according to ISO 14001 is performed on key suppliers. Further present environmental objectives concern incorporating environmental issues into the internal auditing system. The company plans to create measurement tools	The environmental activities concern storage of both hazardous waste and mixed waste. Recycling of wood waste is further under development. Areas of responsibility are clarified and documented.	No environmental information in the annual reports. No environmental report.

	for the amount of pollution and waste (package and hazardous waste).		
Kiilto Oy	Present targets concern products (LCA), energy use and water consumption, waste, fires and industrial accidents.	Present activities concern further environmental labelling of products, information activities, safety, technical solutions, materials efficiency, waste and water.	The company's Environmental and safety report is published every three years. Environmental information is briefly provided in the annual reports. Environmental reports are issued in 1997 and 1999. CSR aspects will be added in the report for 2002. Environmental information is provided on the company's websites.
Oy Lival Ab	The objectives are to achieve Environmental Product Declaration (EPD) for 6 products.	The company has adopted the eco-efficiency "more for less" principle in all its activities, which e.g. means avoiding waste and separating waste for recycling. Lival is certified to the ISO 14001 standard, the SafetyCert Standard for safety and care for workers and the SA8000 standard of social accountability.	No environmental information in the annual report. No environmental report. Environmental and CSR information on the website.
Orfer Oy	The present environmental goal is improvement of the environmental management system. The company is developing a model of activities that includes environmental, safety and health aspects.	Special environmental activities are not going on.	On the webpages is mentioned that Orfer takes part in the EcoProfit project (http://www.palemenia.helsinki.fi/tuke/eco.html). No environmental information in the annual report. No environmental report.
Rocla Oyj	The main objectives are to reduce VOC emissions and to gain the ISO 14001 certificate in 2003.	The main present activities are energy assessment for surveying environmental impacts and preparation of a preliminary environmental assessment.	Environmental information is briefly given in the annual reports. No environmental report.
Saanio & Riekkola Consulting Engineers	The company has no documented environmental goals. Saanio & Riekkola is member of SKOL which is a professional and employers' organisation for independent and private consulting companies. Saanio & Riekkola is thus committed to SKOL's ethical principles e.g. those concerning sustainable development.	Many of the consulting assignments in which Saanio & Riekkola participate involve environmental aspects and the firm performs e.g. risk analyses.	No environmental information in the annual report. No environmental report
Savonlinnan Kylpylätöis, Hotelli Korpi-lampi	Present objectives are energy and water savings and efficient waste management. The hotel strives to give the customers an opportunity to experience nature tourism.	The hotel has taken part in many projects aiming at environmentally friendly tourism like YSMEK 1 and 2 (Parvainen and Pöysti 1995)	Environmental information is provided in the annual reports 1998-2001 of Savonlinnan Kylpylätöis Oy. The Korpilampi Hotel has no annual report of its own. No environmental report.
Stala Oy	Present objectives are efficient usage of water and energy and efficient waste	Present environmental activities are technical	No environmental information in the annual

	management. Another goal is minimizing discharges to environment from the facilities, especially emissions to water (heavy metals).	improvements, e.g. filtration of heavy metals from spill water.	reports. No environmental report.
Temet OY	The objectives concern minimizing discharges to the environment (water, soil and air), efficient waste management, use of energy and washing services, minimising noise levels, packages, neatness of facilities indoor and outdoor rooms, environmental awareness of the personnel and safety aspects.	The company designs the environmental system according to ISO 14001 for certification in 2002. A safety plan supporting the environmental management system has been prepared.	No environmental information is provided in the annual reports. Temet has not issued an environmental report.
Veritas	Veritas has no defined environmental objectives.	Veritas takes environmental aspects into account in the everyday routines at the office e.g. recycling of paper and avoiding disposables.	Environmental information is not provided in the annual reports. Veritas has not issued any environmental report.
Virke Oy	Every department has introduced environmental objectives which are documented in the environmental assessment system (ISO 14001) Main goals are issues related to saving energy and water.	The activities concern efficient usage of energy.	Environmental information is not provided in the annual reports. No environmental report has been issued. Environmental information is provided on Internet as well as information on social responsibility.

APPENDIX 5

Comparison of sustainability indicators presented in environmental reports of Proventia Group, Kesko and Wärtsilä with the sustainability indicators recommended in the guidelines of the Global Reporting Initiative (GRI 2002). The comparison is based on the information provided in the GRI content index tables of the reports.

GRI 2002	Proventia Group	Coverage	Kesko	Coverage	Wärtsilä	Coverage
1 VISION AND STRATEGY						
1.1	Statement of the organisation's vision and strategy regarding its contribution to sustainable development	Vision and strategy	Identical	Vision of sustainable development	Identical	+
1.2	Statement from the CEO (or equivalent senior manager) describing key elements of the report	CEO's statement	Statement from the CEO	+	Chief Executive's statement	+
2 PROFILE						
ORGANISATION PROFILE						
2.1	Name of reporting organisation	Identical	Identical	+	Identical	+
2.2	Major products and/or services, including brands if appropriate	Major products and services	2.1-2.8: Basic information of the company	+	Major products and services	+
2.3	Operational structure of the organisation	Operational structure			Operational structure	+
2.4	Description of major divisions, operating companies, subsidiaries, and joint ventures	Description of major divisions			Description of major divisions	+
2.5	Countries in which the organisation's operations are located	Location of operations			Location of operations	+
2.6	Nature of ownership; legal form	Nature of ownership			Nature of ownership	+
2.7	Nature of markets served	Identical			Identical	+
2.8	Scale of the reporting organisation	Identical			Identical	+
2.9	List of stakeholders, key attributes of each, and relationship to the reporting organisation	List of stakeholders	List of stakeholders	+	List of stakeholders	+
REPORT SCOPE						
2.10	Contact person(s) for the report, including e-mail and web addresses	Contact info	Identical	+	Identical	+
2.11	Reporting period (e.g., fiscal/calendar year) for information provided	2.11-2.21: Reporting principles	Contact person for the report	+	2.10-2.11: Contact info, reporting period	+
2.12	Date of most recent previous report (if any)		Reporting period	+	Recent reports	+
			Previous report	+		

2.13	Boundaries of report (countries/regions, product/services, divisions/facilities/joint ventures/subsidiaries) and any specific limitations on the scope.			2.13-2.16: Boundaries of report	(+)	2.13, 2.15 Boundaries of report	+
2.14	Significant changes in size, structure, ownership, or products/services that have occurred since the previous report.					Significant changes	+
2.15	Basis for reporting on joint ventures, partially owned subsidiaries, leased facilities, outsourced operations, and other situations that can significantly affect comparability from period and/or between reporting organisations						
2.16	Explanation of the nature and effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g. mergers/acquisitions, change of base years/periods, nature of business measurement methods.					Re-statements	+ Note 11
<i>REPORT PROFILE</i>							
2.17	Decisions not to apply GRI principles or protocols in the preparation of the report			Identical		Identical	
2.18	Criteria/definitions used in any accounting for economic, environmental and social costs and benefits			Decisions not to apply GRI principles	- Note 1	GRI principles and protocols	(+) Note 1
2.19	Significant changes from previous years in the measurement methods applied to key economic, environmental and social information			Criteria used in accountings for costs and benefits	- Note 2	Criteria and definitions used	+
2.20	Policies and internal practices to enhance and provide assurance about the accuracy, completeness, and reliability that can be placed on the sustainability report.			Significant changes in measurement methods applied	+	Significant changes in methods	+
				2.20-2.21: Policies and practices in internal and external assurance	(+)	Policies and practices on data reporting	+
2.21	Policy and current practice with regard to providing independent assurance for the full report					Policy for independent assurance	+

2.22	Means by which report users can obtain additional information and reports about economic, environmental, and social aspects of the organisation's activities, including facility-specific information (if available)	Obtaining additional information	+	Obtaining additional information	+	Obtaining additional information	+
3 GOVERNANCE STRUCTURE AND MANAGEMENT SYSTEMS							
<i>STRUCTURE AND GOVERNANCE</i>							
3.1	Governance structure of the organisation, including major committees under the board of directors that are responsible for setting strategy and for oversight of the organisation	3.1-3.5: Board level processes	+	3.1-3.2: Structure of organisation/board	+	3.1-3.2: Governance structure, independence	+
3.2	Percentage of the board of directors that are independent, non-executive directors						
3.3	Process for determining the expertise board members need to guide the strategic direction of the organisation, including issues related to environmental and social risks and opportunities			3.3-3.4: Board-level processes in corporate responsibility management	- Note 3	Process for determining expertise	+
3.4	Board-level processes for overseeing the organisation's identification and management of economic, environmental, and social risks and opportunities					Identification and management of risks	+
3.5	Linkage between executive compensation and achievement of the organisation's financial and non-financial goals (e.g. environmental performance labour practices)			Linkage between executive compensation and corp. responsibility	- Note 4	Executive compensation and achievement of goals	+
3.6	Organisational structure and key individuals responsible for oversight, implementation, and audit of economic, environmental, social, and related policies	Organisational structure and key individuals for implementation and audit	+	Key responsible individuals	(+)	Organisational structure and key individuals for implementation and audit	+
3.7	Mission and values statements, internally developed codes of conducts or principles, and policies relevant to economic, environmental, and social performances and the status of implementation	Mission and values statements	+	Mission, values, operating principles	+	Mission and values statements	+

3.8	Mechanisms for shareholders to provide recommendations or direction to the board of directors	Mechanisms for shareholders to provide recommendations	- Note 1	Mechanisms for shareholder recommendations or opinions	- Note 5	Mechanisms for shareholders to provide recommendations	+
<i>STAKEHOLDER ENGAGEMENT</i>							
3.9	Basis for identification and selection of major stakeholders	3.9-3.12: Stakeholder engagement	+	3.9-3.12: Stakeholder identification, consultation	+	Identification and selection of major stakeholders	+
3.10	Approaches to stakeholder consultation reported in terms of frequency of consultations by type and by stakeholder group					Stakeholder consultation	+
3.11	Type of information generated by stakeholder consultation					3.11-3.12: Information from stakeholder consultation and its use	+
3.12	Use of information resulting from stakeholder engagements						
<i>OVERARCHING POLICIES AND MANAGEMENT SYSTEMS</i>							
3.13	Explanation of whether and how the precautionary approach principle is addressed by the organisation	3.13-3.18: Policies and management systems	- Note 1	Addressing a precautionary approach	- Note 6	The precautionary principle	+
3.14	Externally developed, voluntary economic, environmental, and social charters, sets of principles, or other initiatives to which the organisation subscribes or which it endorses			Endorsement to external initiatives, charters etc. principles	+	Voluntary charters and other initiatives	+
3.15	Principal memberships in industry and business associations, and/or national/international advocacy organisations			Memberships in associations and organisations	+	Industry and business associations memberships	+
3.16	Policies and/or systems for managing upstream and downstream impacts including: - supply chain management as it pertains to outsourcing and supplier environmental and social performance; and - product and service stewardship initiatives			3.16-3.17: Supply chain management, indirect impacts	(+)	Policies and systems for managing upstream and downstream impacts	+
3.17	Reporting organisation's approach to managing indirect economic, environmental, and social impacts from activities					Approach to managing indirect impacts	+

3.18	Major decisions during the reporting period regarding the location of, or changes in, operations			Changes in operations	+	Major decisions on operational changes	+
3.19	Programmes and procedures pertaining to economic, environmental, and social performance. Include discussion of: priority and target settings; major programmes to improve performance; internal communication and training; performance monitoring; internal and external auditing; and senior management review	Programmes and procedures	+	3.19-3.20: Management systems, certifications	+	Programmes and procedures	+
3.20	Status of certification pertaining to economic, environmental, and social management systems	Certification and management systems	+			Certification of management systems	+
4 GRI CONTENT INDEX							
4.1	A table identifying location of each element of the GRI Report content, by section and indicator			COMPARISON OF GRI CONTENT			
5 PERFORMANCE INDICATORS							
<i>ECONOMIC PERFORMANCE INDICATORS</i>							
Direct Economic Impacts							
<i>Customers</i>							
EC1	Net sales	Identical	+	Identical	+	Identical	+
EC2	Geographic breakdown of markets	Identical	(+)	Identical	- Note 7	Identical	+
<i>Suppliers</i>							
EC3	Costs of all goods, materials and services purchased	Costs of materials, goods purchased	+	Goods and services purchased	+	Costs of materials, goods purchased	+
EC4	Percentage of contracts that were paid in accordance with agreed terms, excluding agreed penalty arrangements	Percentage of contracts paid by agreed terms	- Note 2	Payments in acc. with terms	+	Percentage of contracts paid by agreed terms	(+) Note 2
<i>Employees</i>							
EC5	Total payroll and benefits (including wages, pension, other benefits, and redundancy payments) broken down by country or region	Total payroll and benefits	+	Total payroll, pensions, etc.	+	Total payroll and benefits	+

<i>Providers of capital</i>							
EC6	Distributions to providers of capital broken down by interest on debt and borrowings, and dividends on all classes of shares, with any areas of preferred dividends to be disclosed	Distributions to providers of capital	- Note 3	Interests and dividends paid	(+)	Distributions to providers of capital	+
EC7	Increase/decrease in retained earnings at end of period	Change in retained earnings	- Note 3	Change in retained earnings	- Note 8	Change in retained earnings	+
<i>Public sector</i>							
EC8	Total sum of taxes of all types paid broken down by country	Total sum of taxes	- Note 3	Taxes paid	+	Total sum of taxes	+
EC9	Subsidies received broken down by country or region	Subsidies received	- Note 3	Subsidies received	- Note 9	Subsidies received	+
EC10	Donations to community, civil society, and other groups broken down in terms of cash and in-kind donations per type of group	Community donations	- Note 3	Donations to community, civil society, etc.	+	Community donations	+
<i>INDIRECT ECONOMIC IMPACTS (Additional Indicators Only)</i>							
<i>ENVIRONMENTAL PERFORMANCE INDICATORS</i>		CORE INDICATORS: ENVIRONMENT		Identical		CORE INDICATORS: ENVIRONMENT	
<i>Materials</i>							
EN1	Total materials use other than water, by type	Total material use	- Note 2	Materials use	+	Total material use	(+) Note 3
EN2	Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation	Percentage of waste materials used	- Note 2	Use of waste from external sources	- Note 10	Percentage of waste materials used	- Note 4
<i>Energy</i>							
EN3	Direct energy use segmented by primary sources	EN3-EN4: Direct and indirect energy use	+	EN3+EN4: Energy use (direct/indirect)	+	EN3-EN4: Direct and indirect energy use	+
EN4	Indirect energy use						
<i>Water</i>							
EN5	Total water use	Identical	+	Water use	+	Identical	+
<i>Biodiversity</i>							
EN6	Location and size of land owned, leased, or managed in biodiversity-rich habitats	EN6-EN7: Biodiversity-rich habitats, impacts on biodiversity	- Note 4	EN6+EN7: Impact on biodiversity	- Note 11	EN6-EN7: Biodiversity-rich habitats, impacts on biodiversity	- Note 5

EN7	Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, fresh-water, and marine environments						
<i>Emissions, Effluents, and Waste</i>							
EN8	Greenhouse gas emissions	Identical	(+)	Identical	+	Identical	+
EN9	Use and emissions of ozone-depleting substances	Ozone-depleting substances	- Note 4	Ozone	+	Ozone-depleting substances	+
EN10	NO _x , SO _x , and other significant air emissions by type	NO _x , SO _x and other emissions to the air	(+)	Acidification	+	NO _x , SO _x and other emissions to the air	+
EN11	Total amount of waste by type and destination	Total amount of waste	+	Waste	(+)	Total amount of waste	+
EN12	Significant discharges to water by type	Significant discharges to water	- Note 4	Discharges to water	+	Significant discharges to water	+
EN13	Significant spills of chemicals, oils, and fuels in terms of total number and total volume	Significant spills	+	Spills of chemicals, oils, etc.	- Note 12	Significant spills	+
<i>Suppliers (Additional indicators only)</i>							
<i>Products and services</i>							
EN14	Significant environmental impacts of products and services	Environmental impacts of products and services	(+)	Environmental impacts of products	- Note 13	Environmental impacts of products and services	+
EN15	Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed	Reclaimable products after useful life	- Note 2	Reclaimable products	- Note 14	Reclaimable products after useful life	+
<i>Compliance</i>							
EN16	Incidents and fines for non-compliance with all applicable international declaration/conventions/ treaties, and national, sub-national, regional, and local regulations associated with environmental issues	Incidents and fines	-	Environmental damages	+	Incidents and fines	+
<i>Transport (Additional indicators only)</i>							
<i>Overall (Additional indicators only)</i>							
E35	Total environmental expenditures by type	EN34x Environmental impacts of transportation	+	E35: Environmental expenditure (additional)	+		+

SOCIAL PERFORMANCE INDICATORS: LABOUR PRACTICES AND DECENT WORK		CORE INDICATORS: SOCIAL			SOCIAL PERFORMANCE INDICATORS			CORE INDICATORS: SOCIAL		
<i>Employment</i>										
LA1	Breakdown of workforce, where possible, by region/country, status (employee/non-employee), employment type (full time/part time), and by employment contract (indefinite or permanent/fixed term or temporary). Also identify workforce retained in conjunction with other employers (temporary agency workers or workers in co-employment relationships), segmented by region/country.	Workforce breakdown	+	LA1+LA2: Employment statistics	+	Workforce breakdown	+			
LA2	Net employment creation and average turnover segmented by region/country	Net employment creation	+			Net employment creation	+			
<i>Labour/Management Relations</i>										
LA3	Percentage of employees represented by independent trade union organisations or other bona fide employee representatives broken down geographically OR percentage of employees covered by collective bargaining agreements broken down by region/country.	Employees represented by trade unions	- Note 1	LA3+LA4: Labour/management relations, negotiation procedures	+	Employees represented by trade unions	+			
LA4	Policy and procedures involving information, consultation, and negotiation with employees over changes in the reporting organisation's operations (e.g. restructuring).	Policy and procedures relating to consultation with employees	+			Policy and procedures relating to consultation with employees	+			

<i>Health and Safety</i>							
LA5	Practices on recording and notification of occupational accidents and diseases, and how they relate to the ILO Code of Practice on Recording and Notification of Occupational Accidents and Diseases.	Notification of occupational accidents/diseases	- Note 1	LA5-LA8: Health and safety	(+)	Notification of occupational accidents/diseases	(+) Note 6
LA6	Description of formal joint health and safety committees comprising management and worker representatives and proportion of workforce covered by any such committees.	Joint health and safety committees	- Note 1			Joint health and safety committees	+
LA7	Standard injury, lost day, and absentee rates and number of work-related fatalities (including subcontracted workers).	Injury, lost time injury, absence rates	+			Injury, lost time injury, absence rates	+
LA8	Description of policies or programmes (for the workplace and beyond) on HIV/AIDS.	Policies and programmes on HIV/AIDS	- Note 1			Policies and programmes on HIV/AIDS	- Note 7
<i>Training and Education</i>							
LA9	Average hours training per employee by category of employee	Average training hours	+	Training and education	(+)	Average training hours	+
<i>Diversity and Opportunity</i>							
LA10	Description of equal opportunity policies or programmes, as well as monitoring systems to ensure compliance and results of monitoring.	Equal opportunities and programmes	(+)	LA10-LA11: diversity and opportunity	+	Equal opportunities and programmes	(+) Note 8
LA11	Composition of senior management and corporate governance bodies (including the board of directors), including female/male ratio and other indicators of diversity as culturally appropriate.	Composition on senior management and corporate governance bodies	+			Composition of senior management and corporate governance bodies	+
LA12x				LA12x Non-mandatory employee benefits	+		

SOCIAL PERFORMANCE INDICATORS: HUMAN RIGHTS							
<i>Strategy and Management</i>							
HR1	Description of policies, guidelines, corporate structure, and procedures to deal with all aspects of human rights relevant to operations, including monitoring mechanisms and results.	HR1-HR7: Human rights	- Note 1	HR1-HR7: Human rights	(+)	Policies and guidelines (human rights)	(+) Note 9
HR2	Evidence of consideration of human rights impacts as part of investment and procurement decisions, including selection of suppliers/contractors.					Considerations of human rights in investments	- Note 10
HR3	Description of policies and procedures to evaluate and address human rights performance within the supply chain and contractors, including monitoring systems and results of monitoring.					Policies and procedures to evaluate human rights	- Note 10
<i>Non-discrimination</i>							
HR4	Description of global policy and procedures/programmes preventing all forms of discrimination in operations, including monitoring systems and results of monitoring.					Global policy preventing discrimination	(+) Note 9
<i>Freedom of Association and collective Bargaining</i>							
HR5	Description of freedom of association policy and extent to which this policy is universally applied independent of local laws, as well as description of procedures/ programmes to address this issue.					Freedom of association policies	+

<i>Child Labour</i>							
HR6	Description of policy excluding child labour as defined by the ILO Convention 138 and extent to which this policy is visibly stated and applied, as well as description of procedures/ programmes to address this issue, including monitoring systems and results of monitoring.					Policy excluding child labour	(+) Note 9
<i>Forced and Compulsory Labour</i>							
HR7	Description of policy to prevent forced and compulsory labour and extent to which this policy is visibly stated and applied as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring.					Policy to prevent forced and compulsory labour	(+) Note 9
<i>Disciplinary Practices (Additional indicators only)</i>							
<i>Security Practices (Additional indicators only)</i>							
<i>Indigenous Rights (Additional indicators only)</i>							
<i>Community</i>							
SO1	Description of policies to manage impacts on communities in areas affected by activities, as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring.	Impacts on communities	(+)	Operations in community	- Note 15	Impacts on communities	(+) Note 9
<i>Bribery and Corruption</i>							
SO2	Description of the policy, procedures/management systems, and compliance mechanisms for organisations and employees addressing bribery and corruption.	Bribery and corruption prevention	- Note 1	Policy on bribery	(+)	Bribery and corruption prevention	(+) Note 9

<i>Political Contributions</i>								
SO3	Description of policy, procedures/management systems, and compliance mechanisms for managing political lobbying and contributions.	Managing political lobbying and contributions	- Note 1	SO3, SO5x Political contributions	+	Managing political lobbying and contributions	- Note 9	
SO4x				SO4x Awards received	+			
<i>Competition and Pricing</i> (additional indicators only)								
SOCIAL PERFORMANCE INDICATORS: PRODUCT RESPONSIBILITY								
<i>Customer Health and Safety</i>								
PR1	Description of policy for preserving customer health and safety during use of products and services, and extent to which this policy is visibly stated and applied, as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring.	Policy for preserving customer health and safety	- Note 4	PR1+PR2: Customer health and safety	+	Policy for preserving customer health and safety	+	
<i>Products and Services</i>								
PR2	Description of policy, procedures/management systems, and compliance mechanisms related to product information and labelling.	Policy relating to product information and labelling	- Note 4			Policy relating to product information and labelling	(+) Note 11	
<i>Advertising</i> (Additional indicators only)								
<i>Respect for Privacy</i>								
PR3	Description of policy, procedures/management systems, and compliance mechanisms for consumer privacy.	Policy relating to consumer privacy	- Note 4	Respect for privacy	+	Policy relating to consumer privacy	- Note 11	
				Also: Quality of management (report title)				

Note: Some additional indicators are left out

Notes by the companies

Proventia Group

The GRI item covered in the report: +

The GRI item partly covered in the report: (+)

The GRI item not covered in the report: -

Note 1: Not included

Note 2: Information not available

Note 3: No information disclosed, sums not material

Note 4: Not applicable

Partly covered: EC: major market areas mentioned; EN8, EN10: include only emissions from test-drivers with catalysts; EN14: environmental impacts of products and services are described as examples in product performance section; LA, SO1: included in company principles.

Kesko

"As the so called voluntary indicators (marking x) only those included in the report are discussed."

Included in the report: +

Partly included in the report: (+)

Not included in the report: -

Kesko has noted Shortcomings/deviations in their table of comparison to GRI. Here are only comments where the issue is not included in the report noted and numbered as follows:

Note 1: A decision made to apply the GRI guidelines

Note 2: No cost/benefit analyses have been made

Note 3: No processes have been defined separately, corporate responsibility is integrated in all management

Note 4: No such indicators are included in the compensation

Note 5: The procedure has not been described in the report - normal public limited company procedure

Note 6: Risk management and addressing a precautionary approach are not included in the report

Note 7: Not specified according to GRI guidelines

Note 8: Not specified, information in the financial report

Note 9: No subsidies referred to by GRI

Note 10: A trading company does not use recycled waste in the way referred to by GRI

Note 11: No analysis has been made of land areas from the viewpoint of biodiversity

Note 12: Minor connection to Kesko's operation

Note 13: Being a trading company, Kesko produces no products

Note 14: Kesko participates in recovery systems, but the information referred to by GRI applies to manufacturers

Note 15: No process description of stakeholder co-operation

Wärtsilä

The GRI item covered in the report: +

The GRI item partly covered in the report: (+)

The GRI item not covered in the report: -

Note 1: Wärtsilä is familiar with the current GRI protocols, but has not adapted the protocols of their experimental status

Note 2: Information not available at corporate level

Note 3: Information not available at corporate level, except fuel consumption

Note 4: Information not available at corporate level, recycled materials are used in engine and propeller components

Note 5: Not significant, because companies are mainly located in urban areas

Note 6: Local practices, not compared to ILO requirements

Note 7: No separate policy or programme. Part of the occupational health care of employees

Note 8: No corporate level policy or programme. Some Group companies have policies of their own

Note 9: No separate policy, procedures or systematic monitoring system available

Note 10 Reportable evidence not available. Wärtsilä assesses its suppliers as described on page 21 (Wärtsilä's report) and companies in

connection with M&A

Note 11: Not applicable for Wärtsilä

APPENDIX 6

GRI CONTENT INDEX TABLE				
A comparison of sustainability indicators included in the environmental reports of AstraZeneca, Perstorp and Stora Enso with the sustainability indicators recommended by the Global Reporting Initiative (GRI 2002). The indicators are partly summarised and headed as suggested by Proventia Group, Kesko or Wärtsilä in their GRI content index tables to give an overall picture of the inclusion of the GRI indicators.				
GRI index	Sustainability indicator based on GRI	AstraZeneca	Perstorp	Stora Enso
1 VISION AND STRATEGY				
1.1	Statement of the organisation's vision and strategy regarding its contribution to sustainable development /GRI	+	+	+
1.2	Statement from the CEO (or equivalent senior manager) describing key elements of the report /GRI	+	+	(+)
2 PROFILE				
<i>ORGANISATION PROFILE</i>				
2.1-2.8	Basic information of the company /K	+	+	+
2.9	List of stakeholders /PG, K, W	(+)	+	+
<i>REPORT SCOPE AND PROFILE</i>				
2.10	Contact person(s) for the report, including e-mail and web addresses /GRI	—	+	(+)
2.11-2.21	Reporting principles /PG	(+)	+	+
2.22	Means by which report users can obtain additional information and reports about economic, environmental, and social aspects of the organisation's activities, including facility-specific information (if available) /GRI	+	(+)	+
3 GOVERNANCE STRUCTURE AND MANAGEMENT SYSTEMS				
<i>STRUCTURE AND GOVERNANCE</i>				
3.1-3.5	Board level processes /PG	(+)	(+)	(+)
3.6	Organisational structure and key individuals responsible for oversight, implementation, and audit of economic, environmental, social, and related policies /GRI	+	(+)	(+)
3.7	Mission and values statements, internally developed codes of conduct or principles, and policies relevant to economic, environmental, and social performances and the status of implementation /GRI	+	(+)	+
3.8	Mechanisms for shareholders to provide recommendations /PG, W	+	(+)	(+)
<i>STAKEHOLDER ENGAGEMENT</i>				
3.9-3.12	Stakeholder engagement /PG	(+)	+	(+)
<i>OVERARCHING POLICIES AND MANAGEMENT SYSTEMS</i>				
3.13 - 3.17	Policies and management systems /PG	(+)	+	+
3.18	Major decisions during the reporting period regarding the location of, or changes in, operations /GRI	(+)	(+)	(+)
3.19	Programmes and procedures /PG, W	+	+	+
3.20	Status of certification pertaining to economic, environmental, and social management systems /GRI	—	+	+
4 GRI CONTENT INDEX				
4.1	A table identifying location of each element of the GRI Report content, by section and indicator /GRI	—	—	—
5 PERFORMANCE INDICATORS				
<i>ECONOMIC PERFORMANCE INDICATORS</i>				
Direct Economic Impacts				

<i>Customers</i>				
EC1 - EC10	Economic performance indicators	+	+	+
<i>ENVIRONMENTAL PERFORMANCE INDICATORS</i>				
<i>Materials</i>				
EN1	Total materials use other than water, by type /GRI	-	(+)	+
EN2	Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation /GRI	-	-	(+)
<i>Energy</i>				
EN3	Direct energy use segmented by primary source /GRI	(+)	+	+
EN4	Indirect energy use /GRI	-	-	-
<i>Water</i>				
EN5	Total water use /GRI	-	-	+
<i>Biodiversity</i>				
EN6	Location and size of land owned, leased, or managed in biodiversity-rich habitats /GRI	-	+	(+)
EN7	Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, fresh-water, and marine environments /GRI	-	-	(+)
<i>Emissions, Effluents, and Waste</i>				
EN8	Greenhouse gas emissions /GRI	(+)	+	+
EN9	Use and emissions of ozone-depleting substances /GRI	(+)	+	-
EN10	NO _x , SO _x , and other significant air emissions by type /GRI	-	+	+
EN11	Total amount of waste by type and destination /GRI	(+)	+	+
EN12	Significant discharges to water by type /GRI	-	+	+
EN13	Significant spills of chemicals, oils, and fuels in terms of total number and total volume /GRI	(+)	+	(+)
<i>Suppliers (Additional indicators only)</i>				
<i>Products and services</i>				
EN14	Significant environmental impacts of products and services /GRI	(+)	(+)	(+)
EN15	Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed /GRI	-	(+)	(+)
<i>Compliance</i>				
EN16	Incidents of and fines for non-compliance with all applicable international declarations/ conventions/ treaties, and national, sub-national, regional, and local regulations associated with environmental issues /GRI	(+)	(+)	+
<i>Transport (Additional indicators only)</i>				
<i>Overall (Additional indicators only)</i>				
<i>SOCIAL PERFORMANCE INDICATORS: LABOUR PRACTICES AND DECENT WORK</i>				
<i>Employment</i>				
LA1 - LA2	Employment statistics /K	(+)	+	+
<i>Labour/Management Relations</i>				

LA3 - LA4	Labour/management relations, negotiation procedures /K	(+)	(+)	(+)
<i>Health and Safety</i>				
LA5 - L8	Health and safety /K	+	+	+
<i>Training and Education</i>				
LA9	Average hours training per employee by category of employee /GRI	(+)	(+)	(+)
<i>Diversity and Opportunity</i>				
LA10 - LA11	Diversity and opportunity /K	+	(+)	+
<i>SOCIAL PERFORMANCE INDICATORS: HUMAN RIGHTS</i>				
<i>Strategy and Management, Non-discrimination Freedom of Association and Collective Bargaining, Child Labour, Forced and Compulsory Labour</i>				
HR1 - HR7	Human rights /PG, K	(+)	(+)	+
<i>Community</i>				
SO1	Impacts on communities /PG, W	(+)	(+)	+
<i>Bribery and Corruption</i>				
SO2	Bribery and corruption prevention /PG, W	-	-	(+)
<i>Political Contributions</i>				
SO3	Managing political lobbying and contributions /PG, W	-	-	-
<i>SOCIAL PERFORMANCE INDICATORS: PRODUCT RESPONSIBILITY</i>				
<i>Customer Health and Safety</i>				
PR1	Policy for preserving customer health and safety /PG, W	+	(+)	-
<i>Products and Services</i>				
PR2	Policy relating to product information and labelling /PG, W	(+)	-	(+)
<i>Advertising (Additional indicators only)</i>				
<i>Respect for Privacy</i>				
PR3	Policy relating to consumer privacy /PG, W	-	-	-

The GRI item covered in the report: +

The GRI item partly covered in the report: (+)

The GRI item not covered in the report: -

Identical description of the indicator as by GRI: /GRI

Identical description of the indicator as by Kesko: /K

Identical description of the indicator as by Proventia Group: /PG

Identical description of the indicator as by Wärtsilä: /W

APPENDIX 7 A

THE ECO-LIGHTHOUSE TEMPLATE FOR ENVIRONMENTAL REPORTS

Available on http://www.eco-lighthouse.com/enr_report.htm

How to write an environmental report

This general layout is helpful in writing an environmental report and is easily adjusted to suit the individual company.

1. **The company**
Name, trade, products (what and how much) and number of production sites (all production sites covered by the environmental report must be listed). Number of employees/man-labour years and company representative responsible for environmental issues.
2. **Environmental policy**
Company's environmental policy and any environmental certifications.
3. **Health and work environment**
Number of injuries with and without absence. State type of injuries that have occurred, date of last inspection of work environment, as well as completed registrations and efforts to improve the work environment.
4. **Energy consumption**
Annual use of energy for the last five years in kWh and litres of oil. If wood chips are used for heating, the contribution must be converted to kWh. If oil heating is used the kWh contribution is calculated according to the efficiency of the oil burner. The use of oil is usually converted using a value of 7 to 9 kWh/l oil. One Norwegian government agency often uses a factor of 7.2-kWh/l oil. The annual energy consumption is reported as total kWh and as total kWh/product unit or heated area. Comment on reasons for increase or decrease.
5. **Water consumption**
Water consumption for the last five years (or as many years as possible) in m³ and m³ /product unit. Comment on reasons for increase or decrease.
6. **Water emission**
Emission to water, amount of water or an analysis of the discharge if available (m m /product unit, analysis parameter). Comment on the results compared to permits, laws and regulations. List any unexpected emissions.
7. **Air emission**
Emission/analysis of emission if available (per product unit). Comment on the results in relation to permits, laws, and regulations. List any unexpected emissions.
8. **Waste**
List amounts of waste for the last year by type of waste and total amount. State the recycling percent (recycling percent = source sorting of waste/total amount of waste multiplied by 100). Comment on any increases or decreases.
9. **Transportation**
State fuel consumption per driven kilometre for the last five years. Mention other important factors under comments, using additional pages as needed.
10. **Results of previous year's strategy**
Examples of environmental improvements such as reorganisation resulting in cleaner production, switching to environmentally approved products, making environmental demands to sub-suppliers etc.
11. **New plan of action for upcoming year**
Summarise unsolved problems and list new goals and strategies, including plans for improved health, environment and safety.

APPENDIX 7 B**MILJØFYRTÅRNPROSJEKTET
KARTLEGGING AV ENERGIBRUK OG EN ØK - SJEKKLISTE**

BEDRIFT: UTFYLT AV:

BRANSJE: DATO:

SJEKKPUNKT	VURDERING / RESULTAT	
	AKTUELT TILTAK	ER OPPFYLT / IKKE AKTUELT
1. Senking/styring av innetemperatur (19 - 21 °C)		
2. Tidsstyring av: (Natte- og helgesenking)	· Ventilasjon	
	· Oppvarming / kjøling	
	· Belysning	
3. Varmegjenvinner på ventilasjonsanlegg	· Lufterutiner	
4. Serviceavtale/rutine for kontroll av ventilasjonsanlegg og bytte av filtre		
5. Drift og kontroll av eventuell oljekjel		
6. Bygningsmessige forbedringer som:	· Tetningslister	
	· Utskifting av vinduer	
	· Etterisolering	
7. Belysning:	· Lavenergi pærer / rør	
	· Lavenergi armatur	
	· Fotocelle utvendig lys	
8. Solavskjerming		
9. Varmtvannsbereeder, 65 °C		
10. Valg av energieffektivt utstyr ved utskifting		
11. Rutiner for å slå av belysning, maskiner, PC'er ol. etter arbeid. Er rutinene kjent og brukt?		
12. Energioppfølgingssystem		
13. Energiansvarlig:	· Har faglig bakgrunn	
	· Trenger Enøk-kurs	
A. Årlig gjennomsnittlig energiforbruk 2 siste år :		kWh
B. Totalt oppvarmet areal (>15 °C) :		m ²
C. Spesifikt energibruk A:B :		kWh/m ² -år
KOMMENTARER, SPESIELLE FORHOLD:		
TILTAK SOM ER AKTUELLE Å GJENNOMFØRE:		


APPENDIX 8

SOME ORGANISATIONS THAT HAVE ISSUED ENVIRONMENTAL REPORTING GUIDELINES OR RECOMMENDATIONS ON INTERNET FOR FREE DOWNLOADING. (ACCESSED AUGUST 2003)	
ORGANISATION	GUIDELINES, RECOMMENDATIONS, WEB ADDRESSES
ABI, Association of British Insurers	Guidance on Corporate Social Responsibility Management and Reporting for the Financial Services Sector http://www.abi.org.uk/Display/File/301/forgefull_doc.pdf
ACBE, Advisory Committee on Business and the Environment	ACBE paper on Sustainability Reporting, October 2002 www.defra.gov.uk/environment/acbe/pubs/sustainreport/default.htm
ACCA, The Association of Chartered Certified Accountants	An introduction to environmental reporting, 2001, www.accaglobal.com/sustainability/reading/publications/
ACCA, The Association of Chartered Certified Accountants	Environmental, Social and Sustainability Reporting on the World Wide Web. A Guide to Best Practice, 2001 www.accaglobal.com/sustainability/reading/publications/
CERES	CERES reporting requirements for small enterprises and non-profit organisations, December 2002 http://www.ceres.org/pdf/CERES_short_form.pdf
CIRIA, Construction Industry Research and Information Association	Sustainability accounting in the construction industry, 2002, www.ciria.org/downloads.htm
DEFRA, UK department for Environment, Food and Rural Affairs	Environmental Reporting, 2001 http://www.defra.gov.uk/environment/envrp/index.htm
Eco-Lighthouse	http://www.eco-lighthouse.com/ See also Appendix 7 A and 7 B
EU Commission	Commission Recommendation of 30 May 2001 on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies (notified under document number C(2001) 1495), (2001/453/EC), http://europa.eu.int/eur-lex/en/lif/reg/en_register_1510.html
The FORGE group - Financial Organisations Reporting Guidelines for the Environment	Guidelines on Environmental Management and Reporting for the Financial Services Sector, November 2000, www.bba.org.uk/pdf/ForgeText.pdf
GRI, the Global Reporting Initiative	2002 Sustainability Reporting Guidelines http://www.globalreporting.org/guidelines/2002.asp
The Ministry of the Environment Government of Japan	Environmental reporting guidelines, 2001 http://www.env.go.jp/en/rep/eco/erg2000.pdf
The Group of 100, Australia	Sustainability: A guide to Triple bottom Line Reporting, 2003 http://www.group100.com.au/policies/G100_guide-tbl-reporting2003.pdf
Social Accountability International	Social Accountability 8000, 2001, www.cepaa.org
Stratos, Canada	Stepping Forward: Corporate sustainability reporting in Canada, http://www.bsddglobal.com/issues/reporting_stepping.asp or http://www.stratos-sts.com/sts_files/stratos.full.report.pdf
WBCSD	Sustainable Development Reporting, Striking the Balance, January 2003, www.wbcd.ch
Ministry of Social Affairs (Denmark)	Guidelines for Social and Ethical Reporting (Socialtiske regnskaber - guidelines for virksomheder og organisationer) http://www.bm.dk/publikationer/2001/socialtiske_regnskaber/socialtiske_regnskab.pdf



norden

Nordic Innovation Centre



Return address:
Nordic Innovation Centre,
Holbergs gate 1,
NO-0166 Oslo, Norway

NORDTEST

NORDTEST is a Nordic Innovation Centre brand offering competence and expertise in the field of harmonizing of norms and methods, a large Nordic net-work of experts, more than 650 recommended Nordic testing methods and 550 published technical reports.

www.nordicinnovation.net

Nordic Innovation Centre

The Nordic Innovation Centre initiates and finances activities that enhance innovation collaboration and develop and maintain a smoothly functioning market in the Nordic region.

The Centre works primarily with small and medium-sized companies (SMEs) in the Nordic countries. Other important partners are those most closely involved with innovation and market surveillance, such as industrial organisations and interest groups, research institutions and public authorities.

The Nordic Innovation Centre is an institution under the Nordic Council of Ministers. Its secretariat is in Oslo.

For more information: www.nordicinnovation.net



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