CHALMERS

Framework for a sustainability report

How could a sustainability report for Chalmers be designed and what components should it contain?

Master of Science Thesis

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Abstract

Chalmers University of Technology has identified a need to publish a sustainability report. This thesis aims to act as a framework for the report, by investigating what components Chalmers' sustainability report ought to contain and whom it should target. The thesis also gives guidance on how the information needed for the report can be collected and how it preferably should be published.

The thesis comprises a rather extensive section on important events and common concepts related to the field of sustainable development, in order to assure that readers without education in this field will have a sufficient foundation to understand the basic rationale and contemporary history to the relatively new phenomenon of sustainability reports. The reader to this report learns that the motives for producing a sustainability report differ for the different reporting entities. Common advantages with a sustainability report may be increased loyalty with customers, increased transparency and it can be a source for cost savings; a sustainability report may also in some industries merely be an order-qualifier. In order to achieve these advantages, a proper identification of the target groups to the report needs to be conducted, which usually is a smaller group than the stakeholders in general. This thesis presents four suggestions to target groups for Chalmers' sustainability report: future students, employees, other universities and alliances/networks; these groups may have to be convinced of the virtue of sustainability reports.

Further this thesis includes an empirical examination of environmental reports and sustainability reports published by eleven different actors. The reporting of environmental indicators are often well aligned with the recommendations from Global Reporting Initiative, which is the most influential actor on sustainability reporting, whereas reporting on social indicators differ between reporting entities and the indicators for economic sustainability are under-developed. Tendencies are present that the field of sustainability reports will be more regulated in the future; Chalmers does not however at this state need to focus too much on this but can concentrate on finding indicators that mirror the activities of the university. Chalmers must also follow the debate on how the reporting of economic sustainability is best carried out, and adapt this to its own organization and activities when it comes to research and education.

Generally, literature says very little about how information can be collected practically but more that it has to be integrated in the regular routines in order not to get too expensive or time consuming. For Chalmers, the information needed for social and economic reporting can, in most cases, be withdrawn from the regular human resources and financial information systems whereas routines need to be developed for data collection to the environmental indicators. The environmental reporting should be based on the demands from ISO 14001 certification, which Chalmers intends to be certified according to, in order not do conduct a double workload.

Keywords: GRI, sustainability report, stakeholder analysis, university reporting

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List of abbreviations

CERES = Coalition for Environmentally Responsible Economies

EMAS = Eco-Management and Audit Scheme

EMS = Environmental Management System

ESRA = European Sustainability Reporting Association

GRI = Global Reporting Initiative

GU = Gothenburg University

IAPC = International Auditing Practice Committee

SU = Stockholm University

TBL= Triple Bottom Line

WBCSD = World Business Council for Sustainable Development

WCED = World Commission on Environment and Development

1 Introduction

The following chapter presents the reader with background to this thesis and to Chalmers University of Technology. It explains the purpose of the report and states the research questions which provide the foundation upon where the literature review and empirical studies are based. The chapter further states limitations with the report and explain the size and scope of this thesis.

1.1 Background

In recent years, as the issue of global warming and other environmental problems have been extensively discussed in media, companies and other organizations have gained interest to the field. The first corporate environmental reports were published in 1989, and since then the international interest in environmental reporting has grown steadily. An environmental report is a publicly available publication where the environmental activities of a company as well as the environmental results are presented. Some companies are not publishing separate environmental reports, but include an environmental section into the annual report; another option is to publish a sustainability report containing the three different dimensions on sustainability; the economic, the environmental and the social dimensions. External reports are seen as important communication tools for companies to show transparency as well as being an information source for researchers. The company can present all actions taken towards sustainable development and key performance indicators to show a development in performance from year to year. There are no formal requirements on what information that should be included and many companies are searching for support and advice on how to report. (Kolk, 2000)

1.1.1 The background of Chalmers University of Technology

Chalmers University of Technology, hereafter referred to as Chalmers, was founded in 1829 after a donation from William Chalmers, who was the director of the Swedish East India Company (Chalmers University of Technology, 2007a). Chalmers is a foundation owned university, which means larger freedom regarding regulations compared to a state owned university (Chalmers University of Technology Foundation, 2004). The Chalmers Foundation owns Chalmers University of Technology AB, which purpose is to conduct research and education in the fields of engineering, natural science and architecture (Chalmers University of Technology, 2009).

There are approximately 10000 students enrolled at Chalmers, of these about 1600 are foreign students, and Chalmers has over 2100 full-time employees. Within the M.Sc. programs in Engineering and Architecture 27% of the full-time students are women and the three year programs have 23% female students. In total almost 45000 people have graduated from Chalmers over the years. (Chalmers University of Technology, 2008). The total income has grown almost every year during the last ten years and 2008 it was 2369 million SEK. From making a loss every year between 1999 and 2005, Chalmers has made a profit the last three years and the operating profit of 2008 was 46 million SEK (Chalmers University of Technology, 2009).

Chalmers states that activities conducted at the university should strive to contribute to a sustainable future and development in Sweden as well as abroad (Chalmers University of Technology, 2007a); this is to be accomplished through research and teaching at the many departments by addressing sustainable development in general as well as more environmentally focused questions (Chalmers University of Technology, 2007b). In 2008 the decision was taken upon the explicit values 2008-2015 and the new vision: *Chalmers – for a sustainable future*, which should be the base of the strategic plan during the same period. A target picture for Chalmers aiming at 2020 is inter alia based on the value 'technology for man in sustainable systems' (Chalmers tekniska högskola, 2008). The vision, strategy and targets are expected to lead to a commitment for a sustainable future and sustainable development should be visible in the daily operations (Chalmers, 2009).

Chalmers does not publish any sustainability report or environmental report today. There is a small section in the annual report describing a 'Sustainable Working Life', but this is too brief and there is a demand for a more extensive publication from the Environmental Coordinator. The work and focus on sustainability issues is currently presented at different web pages at Chalmers' website. The publication of a sustainability report would be a more effective way to communicate the strategy, goals, values, initiatives and performance regarding sustainable development and increase the transparency of Chalmers.

For Chalmers as a university the sustainability report will have an additional dimension compared to an ordinary company; the education about sustainable development. As described above Chalmers focus on sustainability in both research and teaching; the sustainability report should treat this positive contribution since it is an important part of the sustainability work of the university.

1.2 Purpose

The purpose of the study is to develop a framework for how the sustainability report for Chalmers should be structured and how the information needed can be collected and published. The thesis begins with a description of the evolvement of the concepts associated with sustainable development in general and the growth and important features of sustainability reporting in particular; this is used as a starting point for the discussion on what information that is to be included in the sustainability report of Chalmers. Suggestions and conclusions to the framework for a sustainability report for Chalmers is developed after a rather extensive benchmarking to other universities and companies as well as interviews with selected representatives.

1.3 Objective

The objective of this study is to give answers to the following research questions:

- How has the concept of sustainable development evolved over time?
- How are the sustainability reports of companies and other universities structured; and what information do they contain?
- What groups should Chalmers target with its sustainability report?
- What information should be included in a sustainability report for Chalmers and how should the sustainability report be structured?
- How can the information needed be collected and published and what steps need to be taken in order to accomplish the report?

1.4 Scope

The report includes a description of the evolvement of the concept of sustainable development. Contemporary research includes a large number of articles published with different views on what sustainable development means, and we do not give account for all these different views due to limitations in time and scope for this thesis.

We have developed a framework for the different parts that should be included in the sustainability report of Chalmers. Within the scope is to find and present the information to be included in a sustainability report and how to collect and publish this information, but no performance measures or data are developed in this study.

During the process of producing this report, the decision was taken that Chalmers should be certified according to ISO14001. When developing the framework for the sustainability report we have had the starting-point that Chalmers do not today have any certified environmental management system (EMS); but we give guidance and aid in how an EMS could potentially be used in the compilation of information and production of a sustainability report.

The content of the examined sustainability reports studied are not to be seen as templates for what components to include but rather as examples; they provide insight into how the reports differ depending on the nature of the organization and the context in which they are acting.

As a complement to the companies studied and to GU we have chosen also to study universities' environmental reports, since we want to be able to benchmark organizations acting in the same area as Chalmers and do not consider it wise to benchmark it to one single source, GU, that would be the case if only looking at sustainability reports. We are aware of the risk that this implies a too strong focus on the environmental aspects, but value the advantages of having the ability to compare objects with an organizational similarity to Chalmers higher than this risk.

Last, the sustainability reports studied had the year of 2008 as reporting period. It should be taken into consideration that the second half of 2008 was the initial phase of one of the worst financial crises ever, which may have affected the content of the sustainability reports. We believe that there is a risk that the business context led to a situation where less resource was spent on sustainability reporting and we also believe that the financial numbers in the studied reports are not representative for a "normal" year.

2 Method

This chapter presents a description of the nature of the report, the measures for producing it and finally discusses its reliability and validity.

2.1 Practice oriented research with critical importance

The thesis is of practice oriented nature and aims to contribute to the knowledge of one specified practitioner; Chalmers. Holmén[1] states that practice oriented research presents a real life situation for which a practitioner has formal or informal responsibility and where he/she must act even though the situation cannot be defined objectively; Chalmers wants to react to the pressure of presenting a sustainability report but has not been able, of various reasons, to produce the material in-house.

We have produced new knowledge for Chalmers in the area of corporate sustainability reporting and we see that the findings have practical applicability and can be of critical management/policy importance for the company if it chooses to present a sustainability report. The report provides hands-on guidance and practical recommendations regarding next steps for Chalmers, but also comprises a thorough overview of sustainability reporting in general.

The report does not aim to be of neither hypothesis testing nor building nature, but rather descriptive. The descriptive foundation, based on a literature review and empirical studies on both environmental and sustainability reports, is used as a basis for recommendations on the design of Chalmers' sustainability report.

2.2 Iterative process

The process and approach for this thesis has been iterative and is best described with Figure 1 below.

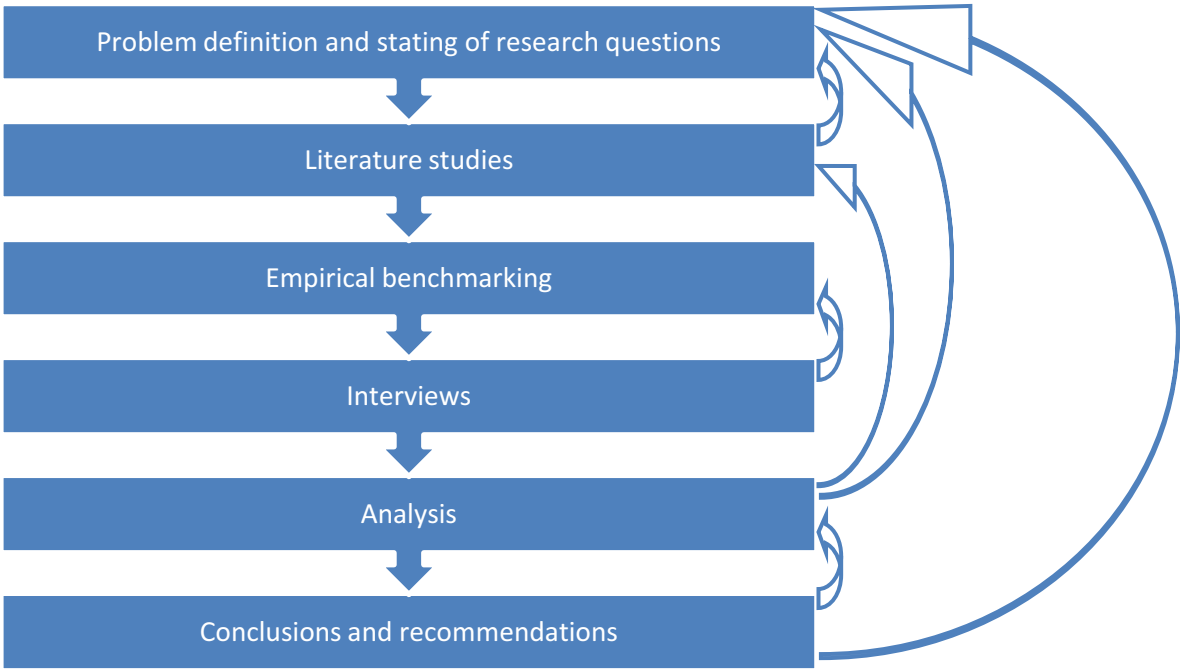

Figure 1: The iterative process and approach for this thesis.

We have continuously throughout this work revised purpose and research questions, and modified the focus of literature based on empirical findings and the conclusions we have reached. The iterative line of action is a deliberate choice that we made since we believe that the end product is, with such an approach, more consistent.

[1] Magnus Holmén, Associate Professor Chalmers, Lecture 01/29/2009

2.3 Literature review strives to give a holistic overview

The literature review aims to give the reader insight into the field of sustainable development in general and sustainability reporting in particular; it has been steered by the research questions presented initially. Sustainable development is a relatively new concept; we guided our search with starting point in the growing embryos to the sustainable development, where some key events were chosen based on their impact on subsequent events. Sustainability reports are then described with information from several angles, which has been a deliberate choice in our literature studies; we wanted to display how different types of actors affect the development and diffusion of sustainability reports and why this is happening, the business opportunities related to it and how this may result in a stricter regulatory situation. Information about sustainability reporting is mostly found in various types of articles, publications by alliances and networks and other websites.

2.4 Examination of different actors for empirical data collection

For collection of material to the empirical chapters of this thesis, various types of stakeholders have been examined. The information from stakeholders have been of varying nature and collected for different purposes. Benchmarks or best practice have been collected from other environmental reports or sustainability reports by peer universities or industry actors together. The industry actors have been of varying size; we believed initially that big multinational firms as Volvo or SKF have better and more extensive reports since they have a wider target group to their report. However, the situation of Chalmers has little resemblance to these giant corporations and we have therefore also chosen to analyze sustainability reports for two medium sized firms. The medium sized firms may not have as exhaustive reports but are useful for benchmarks and best practice; they are also interesting to examine in order to see how the report authors position the report in relation to the activities of the firm and how the indicators etc. are adapted to the specific conditions of the reporting entity. We believe the adaption and design of the report vary for each firm and have therefore chosen to examine five different types of reporting entities in different industries. Since GU is the only university presenting a sustainability report, we cannot draw general conclusions solely on one source for university sustainability reporting.

More qualitative information on what components a sustainability report should contain are based on input from Chalmers' Communications and Marketing office, the vice president for business relations at Chalmers and a researcher with insight into students' interest for sustainability matters.

2.5 Data collection: qualitative with triangulation of methods

Data collection can be of two types, primary or secondary. Primary data is data collected by the researcher in order to fulfill and designed for the specific purpose of that research. Secondary data is collected for another context than the one of the intended research. (Bryman & Bell, 2007)

Primary data is unique to the researcher and of access only to him or her. Primary data can be collected in all areas of research; the data are not tampered by anyone else's beliefs or objectives, the researcher can draw its own conclusion based on objective data. Primary data are required when secondary data is unavailable or insufficient. (Bryman & Bell, 2007)

Secondary data is of increasing interest for researchers thanks to its characteristics as cheap, fast and relatively accessible. The time saved by not having to collect the data yourself can instead be spent on data analysis, which will provide a deeper insight to the project. It can come in various forms and be used both in quantitative and qualitative research (Dale, Arber, & Proctor, 1988), see more on the distinction below. Among the disadvantages with using secondary data is that the data can be very complex, especially since there usually is a lack of familiarity with the methods used. When not using primary data the researcher has limited knowledge of the quality of the data, which also is a drawback compared to collecting primary data.

As introduced above, another common way of distinguishing research designs is to discuss if the study is of qualitative or quantitative nature. A quantitative research is a scientific systematic way of looking at a research by using quantitative methods and measurements. Quantitative research includes statistics in some manner and hands-on comparisons and measurements. Qualitative research aims to gain in-depth understanding of a few research entities. The focus for this type of research is to understand *how* and *why* a phenomenon evolves. Qualitative researchers are often questioned since their results rarely are replicable or reliable as they do not use as many cases to investigate as in the quantitative research (Bryman & Bell, 2007). Our thesis is of qualitative nature; it describes how and why sustainability reporting has evolved and what implications that has for Chalmers. It has therefore some limitations when it comes to generalizations, even though the information advantageously can be used for other universities that intend to present a sustainability report.

Primary and secondary data can with advantage be combined, both in quantitative and qualitative research. In Figure 2 below, a summary of several types of research methods are outlined. The methods in circles are used in this report.

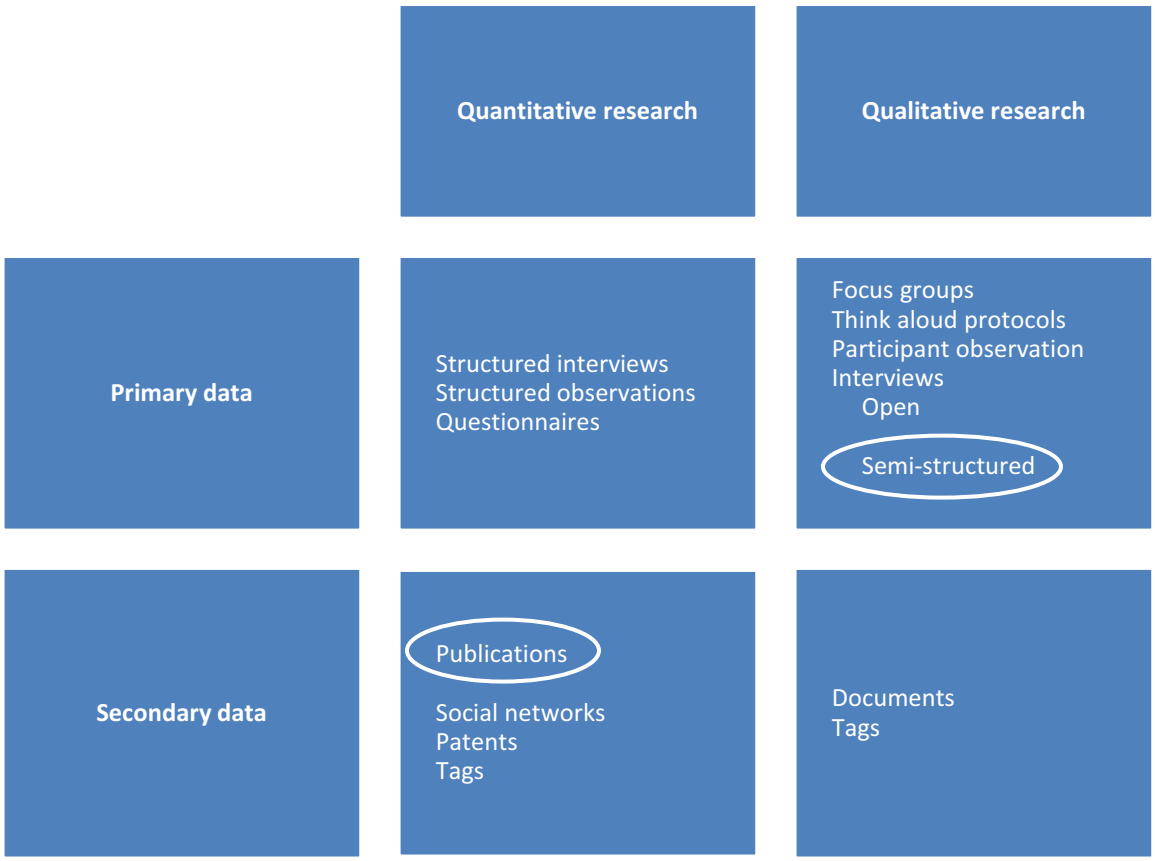

Figure 2: Methods used in this thesis.

We used less data collection methods than was intended initially; we wanted to produce some sort of questionnaire to be distributed to intended target groups to a sustainability report by Chalmers in order to find out what these groups would like to see in a report. We decided however not to, for various reasons: the target group for the report is not set, the goals for ISO certification are not decided upon which means that indicators for the report are yet to be defined etc. In the beginning of the study we also planned to perform some sort of bibliometrics study, which is a quantitative secondary method, on the concept of sustainability reporting to see how the interest for it has evolved over the past years. As the work progressed we decided not to since the reports are labeled

differently and a bibliometrics study may therefore be misleading. Furthermore, we believe that the qualitative study we have conducted on the development of sustainability reporting is sufficient.

The methods we used have, as can be seen in Figure 2 above, been of both primary and secondary nature as well as qualitative and quantitative. The publications, that are referred to, are mostly environmental- or sustainability reports, published by the examined entities in this study. The data is processed and compiled to fit the purpose of this study by being mapped towards each other and potential indicators for Chalmers' sustainability report.

We have in this study conducted five semi-structured interviews:

- Ellen Lagrell, temporary employee, GMV (researcher with knowledge about students' attitudes to sustainable development and labeling of sustainable development in university education)

- Johan Carlsten, vice President Business Relations, Chalmers (to get the perspective on how industry actors and partners react and think about Chalmers' activities regarding sustainable development with visions, strategy, etc.)

- Petra Ljung, director of Communications and Marketing, Chalmers, and Jonas Pettersson, head of Unit External Communication and Profiling Chalmers (to see how the marketing department would use a sustainability report in their daily work and the reactions they believe it would have on different target groups)

- Jonna Bjuhr Männer, environmental coordinator, GU (best practice and benchmarks from the sustainability report conducted and presented by GU)

- Ulf Andersson, environmental coordinator, GU (best practice and benchmarks from the sustainability report conducted and presented by GU)

The templates to these interviews can be found in Appendix E, F, G and H. Since the interviews were semi-structured we allowed a great deal of freedom to the content and encouraged the interviewee to elaborate upon subjects he or she found interesting and relevant for a sustainability report at Chalmers. The interviews were not taped, since we believe it would have hampered and obstructed the sense of freedom to discussions that we wanted to accomplish. Since we did not tape the interviews we transcribed the findings from the discussions directly after each meeting in order not to forget important information. The interview templates were not changed after having the first interviews since we believed that the questions were relevant and interesting; not all respondents had experience and knowledge to answer all questions; especially the Communications and Marketing office that had not pondered much over a potential sustainability report.

2.6 Reliability ensured by transparency in data collection and methods

Reliability relates to the quality of measurement; it is often described in terms of the "consistency" or "repeatability" of the measures (Trochim, 2006). Hence, would somebody else using the collected information and same methods reach the same results; are the results reproducible (Bryman & Bell, 2007)?

We consider the report to be of good consistency, the inter-observer consistency is ensured by enclosing the interview templates. The interview templates are self-explanatory and we have accounted for how and why every respondent fit into this study. The findings from the interviews are non-controversial and anonymity has therefore never been an issue, which results in that the reader always knows where and whom the information comes from; we therefore consider the study easily replicable.

As mentioned, reliability also refers to the extent to which results are consistent over time. We believe the study to be relatively stable, even though we are aware that sustainable development in general and sustainability reports in particular are currently very popular areas for discussion, but still have immature infrastructure and guidelines. The interviewees may answer as they believe appropriate and over-exaggerate the importance of a sustainability report or what measures that have been taken to achieve it; we however consider this as a small threat since the interviewees have limited need to brag about the activities given that this thesis aims is of internal nature for Chalmers. Therefore, if the results of this thesis are to be "re-accomplished"; the stability that we claim to have for this thesis is only accurate for the coming years; after this the infrastructure for sustainability reports will have developed and parts of this report will be out-dated.

2.7 Validity: measure what we say we do

Reports are often assessed by the construct validity, referring to the extent to which a measure accurately reflects the concept that it is intended to measure (Bryman & Bell, 2007). In practical terms, this means if the assumptions, methods used and examined literature gave relevant knowledge to understand and satisfy the research questions and purpose of the report; hence, do we measure what we say we do?

We believe this report to have good validity. Bryman and Bell (2007) distinguishes, as common in methodology literature, between internal and external validity. Internal validity relates to the rigor by which the study was conducted and measures taken to accomplish it whereas external validity treats whether the study is generalizable or not.

About the internal validity of this thesis; the scope and purpose are straight-forward and non-complicated which diminish the risk of losing track over the concept that we are to measure: the development and diffusion of sustainability reports and the implications this may have for Chalmers. We also believe that the fact that our thesis is of descriptive nature, where we have strived for giving a full and holistic picture, have forced us to read vast amount of information from different types of sources related to the field, which reduces the risk that we have missed out on literature that would significantly have altered the end results. Furthermore, this thesis' methods chapter is rather extensive and descriptive which aims to ensure the reader of the accurateness of method approach to this thesis.

Regarding the external validity; this thesis is to some degree generalizable, which for qualitative research often is described as transferability (Lincoln & Guba, 1986); the ability of research results to transfer to situations with similar parameters and characteristics. This thesis has practical application for most universities in the same position and could hence be used by e.g. KTH or Linköping University.

3 Literature review

The following chapter introduces the reader to literature and research about sustainable development in general and sustainability reporting in particular. The literature review aims to give the reader insight in contemporary literature in the field and provides a foundation for comparisons to the empiric material. The literature review is divided into four sections. The first section treats the growth and evolvement of sustainable development, traces its modern roots back to 1960's and presents a rather exhaustive overview over the triple bottom line approach. The second section describes the evolvement of sustainability reporting and discusses the different actors' view on sustainability reports as well as the advantages of conducting a stakeholder analysis and external verification of the report. The third section presents different kinds of environmental management systems and information systems needed for collection of material to a sustainability report. The section also gives information on how organizations can find appropriate indicators for sustainability reporting. The last section comprises the Global Reporting Initiative Sustainability Reporting Guidelines Version 3.0, which are the last published and most frequently used guidelines for how to perform sustainability reporting.

3.1 The concept of sustainability emerges

This section presents an overview of the concept of sustainable development and how the environmental movement has evolved over the last decades. The section further describes the famous triple bottom line approach and gives guidance on how definitions may be used in practical life.

3.1.1 Evolvement of modern environmental movement

The successful environmental movement that society is seeing today has old roots; Robinson (2004) traces the ancestry of the movement to the 19th century. Figure 3 below presents five important events for the modern environmental movement that all have had bearing on the field of sustainable development today.

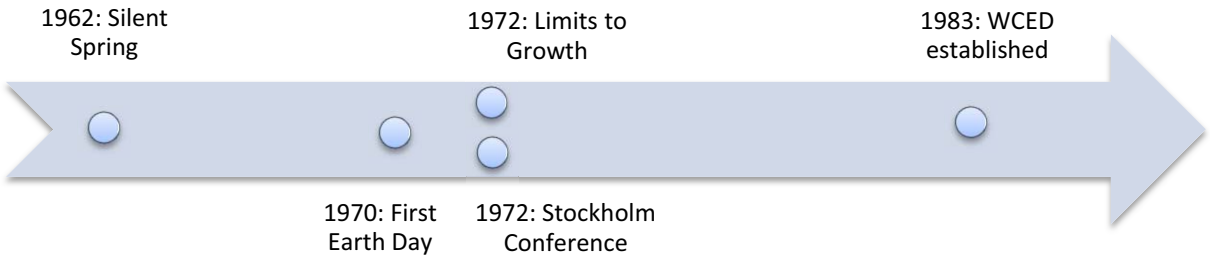

Figure 3: Timeline over important events for the environmental movement.

A turn-point in the environmental debate came in 1962; Rachel Carson published a series of articles and a book, called Silent Spring, where she described the effects of pesticides on birds and provided evidence on that the shells of eggs exposed to pesticides were thinner than others. Silent Spring set off an alarm in the society and was considered a dramatic warning; it started, maybe the first, fierce debate on environmental issues. (Carson & Wilson, 2002)

In 1970 the First Earth Day was celebrated and according to Sprei[2] this is by some regarded as the birth of the modern environmental movement. The day was founded on an initiative from the U.S. senator Gaylord Nelson and aimed to be a nationwide grassroots demonstration, designed for

[2] Frances Sprei, PhD Student Chalmers, Lecture 09/08/2008

creating awareness and appreciation for the common environment. The day is now celebrated every year in many countries across the globe, commemorating the First Earth Day. (Bailey, 2000)

In 1972, the Club of Rome, a global think tank that deals with a variety of international political issues, published a book where they presented a model of the world with a growing population and finite resource supplies (Meadows, 1972). According to Sprei[3] the book started a stern debate on whether the think tank was right or wrong and especially poor countries reacted very negatively.

The year of 1972 also hosted another important turning point for the evolvement of environmental movement; the United Nations held a conference on the Human Environment, often called the Stockholm Conference. McCormick (1991) states that it was the first intergovernmental occasion where social, environmental and political problems were addressed, with the purpose of taking corrective action on a wider scale. Among the meeting's aims were that governments should get a common understanding, and bring the human environment to the agenda. McCormick (1991) further suggests that the meeting was a turning point because the participants felt the need for action; the atmosphere was characterized by anticipation and excitement, and it gave birth to various new NGO's working with sustainable development.

Last, another important hallmark is 1983, where the World Commission on Environment and Development (WCED) was founded; see more information in subsequent sub-section. (United Nations World Commission on Environment and Development, 1987)

3.1.2 Brundtland Commission: pioneers in sustainable development

The concept of sustainable development first emerged in the beginning of the 1980's with some incipient attempts, e.g. in Brown (1981). However, it was not until 1987 the concept of sustainable development was made popular by United Nations' commission WCED; see above, also known as the Brundtland Commission. The commission was assembled on the call from the General Assembly of the United Nations and its objectives included (United Nations World Commission on Environment and Development, 1987):

- Proposing long-term environmental strategies for achieving sustainable development
- Considering means on how the international community could deal more efficiently with environmental concerns
- Helping to define shared perceptions across individuals and nations on long-term environmental issues
- Making suggestions on how to deal with long-term issues effectively and also defining common aspiration goals

The Brundtland Commission published a report, called Our Common Future, in which they outlined the progress of concepts relating to sustainable development and contributed to the field by developing an own definition of sustainable development, which has been very prominent in subsequent sustainability discussions. The Brundtland Commission stated in 1987 that "'sustainable development' is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations World Commission on Environment and Development, 1987, p. 43).

[3] Frances Sprei, PhD Student Chalmers, Lecture 09/08/2008

By providing the holistic definition presented above, the Brundtland Commission aimed to stress the importance of integrating several perspectives in the notion (United Nations World Commission on Environment and Development, 1987), and not focusing solely on one area, e.g. environmental perspectives, which is suggested by e.g. Robinson (2004) that the environmental literature has focused on since the late 19th century.

Further, Brundtland also believes that the new definition was more clearly stated in political terms; he suggests that:

> The term 'sustainable development' had already been used in certain contexts before the Commission was established. What the Commission did, was to give this term a new content - a far more political content. (Brundtland, 1997, p. 79)

The Brundtland Commission suggested in their report that there is a growing need for effective international cooperation, since ecological and economic situations for nations are never independent but rather part of a common bigger system. However, this constitutes a paradox, since they also advocate that confidence in international organizations is declining and support for them is losing ground. (United Nations World Commission on Environment and Development, 1987)

The definition of sustainable development in Our Common Future has been widely debated and discussed, and has given birth to various new definitions and interpretations of sustainable development (Langhelle, 1999). Numerous treatments have criticized Our Common Future and considered it ambiguous and contradictory. Among further critique on the definition from the Brundtland Commission is that it does not give any insight to the mechanisms or changes needed to accomplish the desired sustainable development. Other researchers and practitioners mean that Our Common Future focuses too much on the economic growth (Langhelle, 1999). An argument for this reasoning is presented in Robinson (2004, p. 370) "development is seen as synonymous with growth, and therefore that sustainable development means ameliorating, but not challenging, economic growth". The quote implies that economic growth is the most important aspect, as long as it is not challenging, which may be considered somewhat vague.

However, despite the drawbacks that can be addressed on the definition and work of the Brundtland Commission, the fact remains that Our Common Future has transformed the way of how institutions, such as e.g. the World Bank, view the concept of sustainable development and how they perceive they should conduct their tasks (Crush, 1995). The Brundtland Commission is by many seen as the ancestor to sustainable development and hence has had a great impact on the subsequent work.

3.1.3 Triple bottom line most common division of sustainable development

The preceding sub-sections in this section have all treated organizations, events or reports in some way related to the concept of sustainable development. They do not, by any means, aim to constitute a thorough picture of the rise of the field, but rather to show the most important organizations and events. What can be distinguished even from this relatively small sample is that sustainable development is often plagued by vagueness in the definition and can include very different types of initiatives (Robinson J. , 2004). Robinson (2004) further advocates that the term of sustainable development differ from the eye of the beholder.

In the discussion in Robinson (2004) the debate on the content of the term 'sustainable development' is presented; Robinson has identified two approaches in the contemporary literature:

a) Dualistic approach: Emphasizing the relationship between humanity and nature
b) Three pillar approach: Emphasizing the economic, social and ecological dimensions

Robinson's (2004) standpoint on the matter seem to favor the more common three pillar approach; he states that sustainability must be an integrating concept and include social aspects with the biophysical, physics applied to biological problems, perspectives, in order to comply with the definition of sustainable development from the Brundtland Commission. Solutions that do not address all three perspectives, see above, are insufficient and sustainability must be an integrative concept across sectors and fields. Robinson and Tinker (1998) mean that the three components, economic, environmental and social have direct effect on each other and can never be used in isolation.

The three pillar approach is the most common attempt to break down the concept of sustainable development, but it is usually called 'the triple bottom line'. The phrase was coined (Presidio School of Management, 2008) by John Elkington in a book from 1998 called "Cannibals with forks: The Triple Bottom Line of 21st Century Business (The Conscientious Commerce Series)". The triple bottom line in this context refers to the three levels: people, planet and profit (Elkington, 1997).

Profit Bottom Line is referring to the economic sustainability. Dyllick and Hockerts (2002) define economic sustainable companies as those that on any time guarantee sufficient cash-flow to ensure liquidity while producing a persistent above average return to their shareholders. The selling price minus cost of production must be positive also in the long run. The company must pursue economic stamina. This bottom line is shared in all types of commerce, no matter whether they are interested in sustainable development or not. Profit is also a firm's record of economic performance (Hamson, 2001). This perspective is natural for most people, but needs to be integrated with the other two in order to obtain a sustainable development for an organization.

People Bottom Line refers to social sustainability. Social sustainability can be of many different kinds but aims to assess a firm's impact on employees, consumers and communities (Hamson, 2001). Dyllick and Hockerts define socially sustainable companies as those that:

> add value to the communities within which they operate by increasing the human capital of individual partners as well as furthering the societal capital of these communities. They manage social capital in such a way that stakeholders can understand its motivations and can broadly agree with the company's value system. (Dyllick & Hockerts, 2002, p. 134)

It is important to be fair and a triple bottom line organization seeks to benefit many stakeholders, not exploit or endanger any group of them. An organization working with social sustainability would e.g. not use child labor, would pay fair salaries to its workers, would maintain a safe work environment and tolerable working hours, and would not otherwise exploit a community or its labor force.

Planet Bottom Line refers to the environmental sustainability. Dyllick and Hockerts define environmental or ecological sustainable companies as those that:

> use only natural resources that are consumed at a rate below the natural reproduction, or at a rate below the development of substitutes. They do not cause emissions that accumulate in the environment at a rate beyond the capacity of the natural system to absorb and assimilate these emissions. Finally they do not engage in activity that degrades eco-system services. (Dyllick & Hockerts, 2002, p. 133)

Pursuing environmental sustainability in practice often refers to reducing the harm incurred on the nature and reducing its ecological footprint. The term of ecological footprint was coined in 1990 by Mathis Wackernagel and William Rees at the University of British Columbia (Global Footprint Network, 2009) and has become a rather trendy notion. Ecological footprint is a measure of human demand on the Earth's ecosystems; in more practical terms it means e.g. to reduce waste, limit the energy consumption, limit the use of non-renewables and limit the waste of toxic materials (Global Footprint Network, Research and Standards Department, 2008). In order to assess the environmental impact, a life cycle assessment is usually conducted, which aims to calculate the ecological impact of a product or service over a lifetime. In a life cycle assessment the true environmental cost, from raw materials to disposal of the end user, is taken into consideration (Gloria, 2009). An organization can also make improvements to the environment and this naturally enhances their environmental sustainability (Elkington, 1997).

As argued earlier, supported by e.g. Robinson (2004), all three aspects must be integrated in order to achieve the holistic approach and avoid sub-optimization. Figure 4 (Blume, 2009) represents the three pillar approach where different types of alternatives are possible. If environmental and economic concerns are used, a viable situation is present; viable means “capable of being done with means at hand and circumstances as they are” (Princeton University, 2006a). If environmental and social aspects are used together, an equitable situation arises; equitable means “fair to all parties as dictated by reason and conscience” (Princeton University, 2006b). If economic and social aspects are taken into consideration, the situation is bearable; bearable means endurable or tolerable (Houghton Mifflin Company, 2003). As can be seen in the figure and has been argued theoretically above in this text, it is only when the three concepts are integrated that sustainability arises.

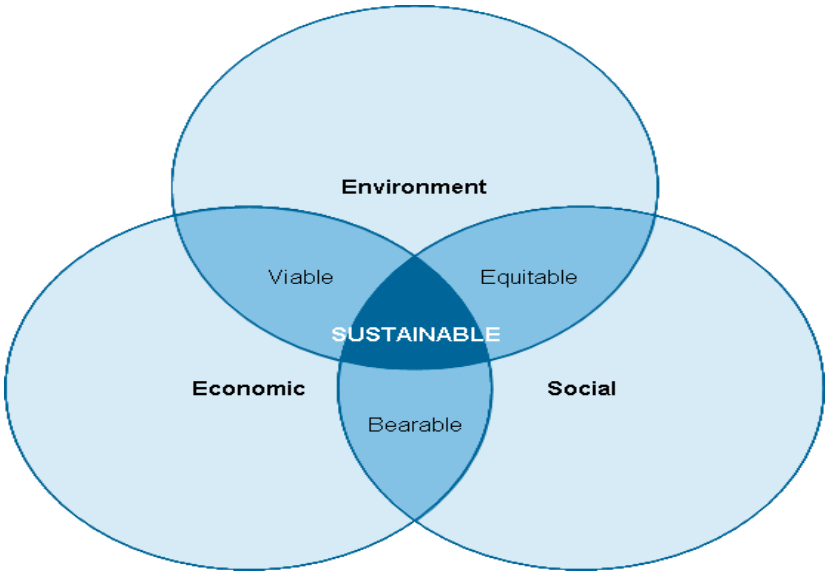

Figure 4: Components of sustainable development.

The triple bottom line approach both represents the set of values that sustainable development contains, but, related to this work and in more practical terms, the concept can also be used for accounting purposes and sustainability reporting. By using triple bottom line accounting the traditional company reporting framework is augmented to include more perspectives than the mere financial outcomes (International Institute for Sustainable Development, 2007).

A pre-condition in order for companies to use triple bottom line accounting, by e.g. presenting sustainability reports, is that they acknowledge the virtue of corporate sustainability. Corporate sustainability in this sense refers to pursuing sustainable development within the frame of an organization. In more practical terms corporate sustainability can be understood as “meeting the

needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities etc), without compromising its ability to meet the needs of future stakeholders as well" (Dyllick & Hockerts, 2002, p. 131). This type of definition naturally aligns well with the definition from the Brundtland Commission and hence produces a consistency in definitions and enables the triple bottom line approach to be used also when assessing the activities of an organization. From what can be understood from the material presented so far, many companies have accepted corporate sustainability as a precondition for doing business (Dyllick & Hockerts, 2002). Dyllick and Hockerts (2002) further argue that a company striving for corporate sustainability must be able to integrate short- and long term objectives. To obtain this, in modern literature often referred to as an ambidextrous organization see e.g. Tushman and Anderson (1997), is very difficult and demands a high level of strategic maturity in the organization.

Even though this sub-section has presented literature that advocates an integrated approach where the three pillars all are necessary to obtain sustainable development, others argue that the three pillars cannot be treated as if equivalent (Adams, 2006). The authors of the article argue that the economic and societal sustainability in many ways are the same and that economy is an institution that emerges from society. The environmental perspective, however, is different since it is not created by society. The three pillars are hence not built up by the same type of components which makes thinking about trade-offs difficult (Adams, 2006).

Last, this section has discussed the evolvement of modern environment in general and the development of sustainable development. We have presented several ways to attack the concept but it is important to remember that it is not how it is defined in research that matters but rather how it is measured in practice (Robinson J. , 2004). The measurement in practice, as e.g. sustainability reports for companies, requires this foundation of concept defintion but also validated indicators and means on how to report the activities. The subsequent sections treat this by showing the rise of sustainability reporting, as means to operationalize the concept, and guidelines for this.

3.2 Sustainability Reports

This section will guide the reader through the evolvement of sustainability reporting and state the most common reasons for publishing sustainability reports. The timeline presented in Figure 5 below (Kolk, 2000) (Kolk, 2003) (Global Reporting Initiative, 2009) (KPMG Bohlins AB, 2008) shows some important events concerning the development of sustainability reports and the majority of the events are further explained in the following sub-sections.

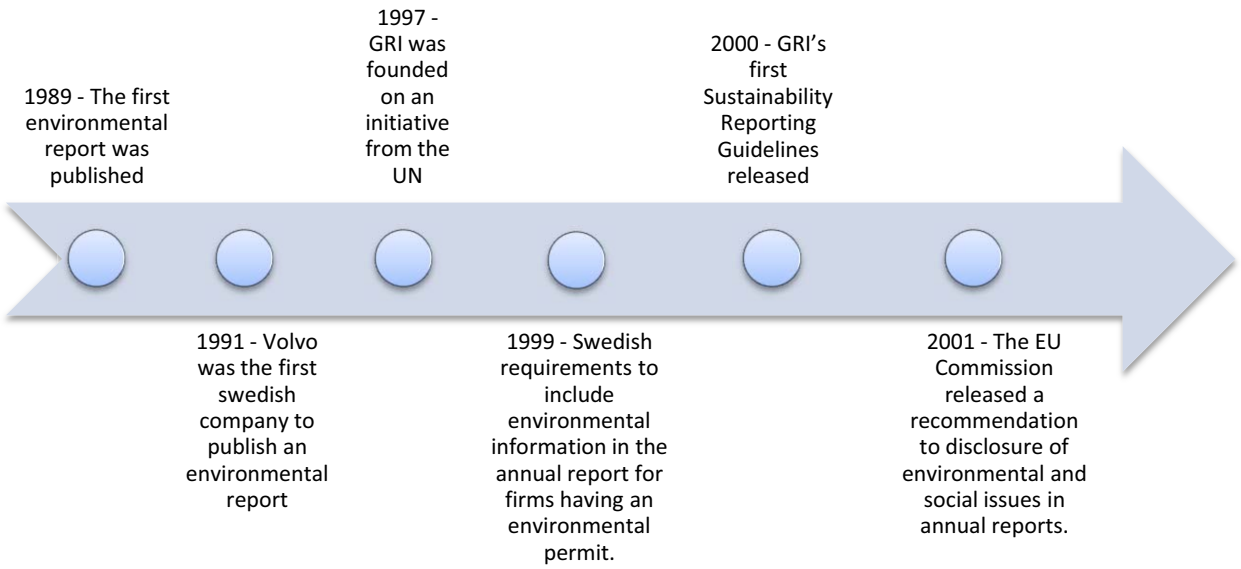

Figure 5: Timeline on events regarding the evolvement of sustainability reporting.

3.2.1 The concept of Sustainability Reports evolves

The first corporate environmental reports were published in 1989, and since then the international interest in environmental reporting has grown steadily (Kolk, 2000). Employees, customers and the public are increasingly interested in other variables than mere financial objectives; the firms publishing environmental reports are responding to this interest (Kolk, 2000). Many companies having environmental reports also recognize that business opportunities and risks cannot be communicated adequately through indicators based on financial aspects alone. The shareholders can be damaged also by failures in other areas than pure financial. (Hartshorn & Wheeler, 2002)

As stated in the introduction some companies are not publishing separate environmental reports, but include an environmental section into the annual report or publish a sustainability report containing the three different dimensions on sustainability; the economic, the ecological and the social dimensions (Kolk, 2000). The Global Reporting Initiative, usually called GRI, (Global Reporting Initiative, 2006, p. 3) defines sustainability reporting as "the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development". Their definition of a sustainability report is (Global Reporting Initiative, 2006, p. 37): "A sustainability report refers to a single, consolidated disclosure that provides a reasonable and balanced presentation of performance over a fixed time period".

A clear development away from reporting on environmental issues only, towards including economic and social aspects as well, was seen between 1998 and 2001. During this time the published reports went from 100% concentrating solely on environmental issues to a share of 30% including other issues, where social and economic was the dominating new aspects put into focus (Kolk, 2003). Among these 30% one third used the GRI reporting guidelines as inspiration (Kolk, 2004). Another tendency is that there is a development towards including more performance measures in the

sustainability reports. This development is driven by the fact that there is a wish to assess the actual performance of a firm instead of merely stating their policies (Kolk & Mauser, 2002).

The development of environmental reporting towards sustainability reporting can be described by a five-stage model showing the increased elaboration and detail of the reports. Table 1, adapted from the United Nations Environment Programme and SustainAbility (1996), shows this model and describes the different phases.

Stage	Characteristics
1. Green Glossy	Green glossies, newsletters and videos. Short statement in the annual report.
2. One-off	Environmental report, often linked to first formal policy statement, published once.
3. Descriptive	Link to environmental management system in the annual report. Text presented, but lack of figures.
4 State of the Art	
a) Quantity	Annual publication of full performance data. Targets are clear and linked to policy and auditing process. Reports on both corporate and site levels. Passive two-way communication with stakeholders.
b) Quality	Significant effects and performance compared to targets clearly reported. Company activities linked to key environmental issues and global priorities. Active multi-way communication with stakeholders.
c) Comparability	External verification. Recognized global standards used in the reporting process. Detailed financial information included. Active multi-way dialogue with stakeholders in all countries.
5. Sustainability	
a)Company responsibility	Complete and standardized state-of-the-art environmental, financial & social reporting. Internal and external evaluation of social and environmental performance. True and fair view of global and local impacts. Reporting against global operating standards in all world regions. Responsible lobbying.
b)Market sustainability	Information needs made explicit. Use of disclosed information in all investment and consumption decisions. Pressure for greater corporate disclosure across the triple bottom line. Rewarding good performers and penalizing laggards. Balancing the rights and needs as shareholder, consumer and citizen.
c)Government accountability	Mandatory minimum frameworks for reporting. Common social and environmental accounting methodologies and indicators. Enforceable environmental quality standards. Corporate actors that do not perform are punished. Social and environmental tax reforms. Public procurement and investment is sustainability screened.

Table 1: The five-stage Company Environmental Reporting model showing the development of the reports.

When environmental reports started to be analyzed, evaluated and ranked there was a development of standards and benchmarks (United Nations Environment Programme & SustainAbility, 1997). Measures were taken to standardize the environmental reports during the last years of the 1990's. In 1997 the Coalition for Environmentally Responsible Economies (CERES) launched GRI. The aim was to increase the usefulness and comparability between sustainability reports by introducing standardized and globally applicable guidelines for how to prepare a sustainability report. (Kolk, 2000)

3.2.2 Why publish Sustainability Reports?

There are a number of reasons for a firm to publish a sustainability report, but also several reasons for not doing so. The decision of whether or not to publish a sustainability report is seen as a strategic decision by many firms. Since there are no formal requirements on which information that should be included, many companies often search for support and advice on how to report. (Kolk, 2000)

During the 1990's when environmental reporting started to spread, the reasons for publishing a report differed between continents. In Europe the drivers were mainly duty to the environment, public relations, competitive advantage and legal compliance but not direct shareholder pressure. American and Japanese companies, on the other hand, believed that shareholder pressure was more relevant. Despite differing rationale for publishing sustainability reports across the continents, the primarily target groups for the reports were the same; customers and employees. (Wheeler & Elkington, 2001)

An environmental report can increase the awareness of environmental issues and facilitate the implementation of the environmental strategy as well as convey the corporate message internally and externally. The increased transparency of the company can improve the credibility of the company; efforts and standards can be communicated through the report. Further advantages with the publication of an environmental report are the possible identification of cost savings, improved reputation, increased efficiency, enhanced staff morale as well as better opportunities for business development. (SustainAbility & United Nations Environment Programme, 1998)

A sustainability report can be used for communication purposes in marketing and to show transparency of the company. The company can present actions taken towards sustainable development and key performance indicators to show a development in performance from year to year (Kolk, 2000). The sustainability report is used by some firms to show the added value and how this value is distributed among the stakeholders (Kolk, 2004).

The Global Reporting Initiative (2006) states three main reasons for publishing sustainability reports. The first one is benchmarking and an assessment of the sustainability performance compared to laws, norms, codes, performance standards and voluntary initiatives. The second reason is to demonstrate how the company is influencing and is influenced by expectations regarding sustainable development. A third reason for presenting a sustainability report can be to compare the performance within an organization or between other organizations over time.

One reason for not starting to publish sustainability reports is that it can be difficult to stop annual publications due to the risk of getting negative publicity. As the firm starts providing information there will be requests for more and the firm risks ending up publishing more information than initially intended. Further, the publication of a sustainability report may demand vast amount of data to be collected. Some information wanted in sustainability reports can be sensitive to make available to competitors. (Kolk, 2000)

Taking the disadvantages mentioned above into account, there may be situations where it is better for a company not to present a sustainability report; if the competitors do not publish reports, if the

stakeholders lack interest of sustainability reporting or if reporting will not increase sales. A company that already has a good reputation for its environmental performance can choose one of the many other ways of communicating about environmental issues since the development of a sustainability report is rather expensive. (SustainAbility & United Nations Environment Programme, 1998)

3.2.3 Global Reporting Initiative

The Global Reporting Initiative has the mission to fulfill the need of a clear and open communication about sustainability and the expectations of transparency about economic, environmental and social impacts "by providing a trusted and credible framework for sustainability reporting that can be used by organizations of any size, sector, or location" (Global Reporting Initiative, 2006, p. 2). GRI defines transparency as "the complete disclosure of information on the topics and Indicators required to reflect impacts and enable stakeholders to make decisions, and the processes, procedures, and assumptions used to prepare those disclosures" (Global Reporting Initiative, 2006, p. 6). The economic, environmental and social transparency will, according to the Global Reporting Initiative (2006), become a fundamental component in investment decisions and relations with stakeholders and other market actors.

The sustainability performance of the reporting entity should be presented in a reasonable and balanced way, not only the positive contributions but also the negative ones should be included. The reports that are based on the GRI Reporting Framework contain results and outcomes from the period that the report covers and these should be in the context of the commitments, strategy and management of the organization. (Global Reporting Initiative, 2006)

The first GRI reporting guidelines were released in 2000 (Global Reporting Initiative, 2009) and stated the different parts that was recommended to be included in a sustainability report. To increase the transparency and credibility of sustainability reports some of the requirements and principles of financial reporting were used (Kolk, 2000). The GRI reporting guidelines have been updated since the first publication; the most recent one is Version 3.0 of the Sustainability Reporting Guidelines, also called GRI, G3; which are currently the most frequently used in Sweden as well as abroad (KPMG Bohlins AB, 2008). The GRI, G3 is presented separately in section 3.4 in this report.

According to a survey published some years ago the main reasons for Swedish companies to use the GRI guidelines is because they expect a better credibility of the report and because it provides a template for how the report should be designed (Hedberg & von Malmborg, 2003).

3.2.4 Consultants – important actors for sustainability reporting

Several consultancy firms have made attempts to develop guidelines and frameworks for sustainability reporting; on a global scale e.g. Deloitte, with a corporate sustainability reporting scorecard, and KPMG, with an extensive study conducted together with e.g. GRI. The following sub-sections aim to give an insight into the work of sustainable development in these two companies but also to present the consultancy industry in general for services relating to sustainable development.

3.2.4.1 Deloitte: sustainability reporting scorecard

Deloitte's program with a sustainability reporting scorecard aims to work as a benchmarking tool, to be able to compare to best practice solutions, but also a learning tool for designers of sustainability reports. Deloitte's rationale for developing the framework stem from the understanding that companies currently focus more and more on sustainability matters; Deloitte believe that companies are increasingly interested in communicating their sustainability efforts to interested stakeholders. They recognize the trend, touched upon earlier in this literature review that companies are now moving away from producing isolated environmental or economic reports, but rather striving to obtain the more holistic integrated sustainability reports. Deloitte advocates that more and more stakeholders take sustainability reports into account when making decisions, and they see a void in

guidelines and directions from policy institutions as e.g. GRI. Deloitte's intention with the sustainability reporting scorecard is to produce a common framework for sustainability reports that is widely accepted and broadly applied across the globe; they believe that their sustainability reporting scorecard can fill the gap of today. (Deloitte & Touche Global Environment & Sustainability Services, 2002b)

The scorecard, found in Appendix A, is focused on providing a qualitative tool more than a quantitative one with guidance on what content that is relevant to present. They stress the importance of effectiveness of communication and proper identification of the stakeholders to the report. Deloitte believes that the main focus lies in delivering a compact story to the reader on the reporting organization's strategy. For this they have developed 30 criteria which aim to assess the corporate sustainability. The guidelines from Deloitte can provide insight and function as a checklist for a company producing a sustainability report. However, it does not give insight in how to structure the report, what indicators to use or how to practically measure the concepts. Deloitte rather encourages the use of the scorecard to companies already publishing a sustainability report and to use the scorecard as means to assess the report, by calculating a score, on a scale 1-4, on each of the 30 criteria. The scorecard is based on and merged with guidelines from GRI, WBCSD and International Auditing Practice Committee (IAPC). (Deloitte & Touche Global Environment & Sustainability Services, 2002a)

3.2.4.2 KPMG: interest in the readers of sustainability reports

KPMG also shows interest for sustainable development and sustainability reporting. Their reason for interest in the field is described by the following quote from KPMG International (2009): "A combination of regulation, stakeholder pressure and voluntary action is resulting in companies incorporating sustainability and environmental concerns into their business strategies and processes".

KPMG has together with SustainAbility and GRI conducted a study, called "Count me in - The readers' take on sustainability reporting", where they examined the readers of sustainability reports, analyzed what readers use the report for and what information they would like to see in sustainability reports in the future. From that report lots of information may be extracted: a sustainability report strengthens the brand and reputation of the publishing company, nine out of ten readers believe they are affected by the information provided in the sustainability report, the report must mirror the organization's structure and strategy and that the readers want to see examples on innovative procedures, by the companies, in order to improve the sustainability footprint. (KPMG Bohlins AB, 2008)

KPMG also presents a checklist of questions that needs to be answered when producing a sustainability report; among the more important, and sometimes neglected questions, are the questions regarding the goal with the sustainability report: whom does it target, what is the purpose etc, see KPMG Bohlins AB (2008). They advocate that sustainability reporting sometimes is conducted without clear guidelines; KPMG proposes the companies to produce the sustainability report by the same means as a financial report normally is produced (KPMG Bohlins AB, 2008).

3.2.4.3 Sustainability consulting: a lucrative field for the future

With the green wave passing through society and the growing interest within organizations to focus on sustainable development, the number of consultancy firms in the area can be expected to grow significantly and their impact on this relatively new and immature field can be anticipated to be big. Hartshorn and Wheeler (2002) suggest that the field of sustainable development constitutes an interesting and distinctive challenge to companies and their consultants and imply that many consultancy firms, as Deloitte and KPMG mentioned above, have realized this. In fact, all examined consultancy companies in the study of Hartshorn and Wheeler (2002) agreed that sustainability

challenge presents a “very good” or “excellent” opportunity for business growth. But Hartshorn and Wheeler (2002) also state that many traditional management consultant firms lack knowledge and expertise on the more technical aspects of environmental management and stakeholder engagement.

Gray, Bebbington and Walters (1993) argue that a lack of innovative environmental accounting has historically stalled efforts to operationalize the concept of sustainability and slowed down the rate of change in consultancy offers in the field of sustainable development in general and sustainability reporting/accounting in particular. Hartshorn and Wheeler (2002) points out that there have been few studies on consultancy firms helping clients on and advising on matters related to sustainable development and its reporting, and the field therefore lacks empirical context. They argue that advisors and consultants have a role in this new industry by presenting viable business cases to their clients on how to use non-financial indicators and e.g. sustainability reports can convey value to the firm, unleash potential, build trust with stakeholders and uncover opportunities.

3.2.5 Requirements on Environmental Reporting are introduced

Denmark was in 1996 the first country to implement legislation on environmental reporting, followed three years later by the Netherlands. The requirements in Denmark included e.g. quantitative information regarding polluting substances and used material and qualitative information about environmental effects. The regulation in the Netherlands forced the firms with the largest environmental impact to report on e.g. climate change, acidification, eutrophication, pollution, waste disposal, groundwater depletion, permits, safety and environmental management systems. (Kolk, 2000)

Other countries followed with different regulations demanding firms to report on environmental issues, environmental performance and/or emissions. By the beginning of this decade almost all larger countries, except the United States, had introduced regulatory requirements and/or encouragements from the government on sustainability reporting (Kolk, 2003). Since 1999 there are requirements in Sweden to include environmental information in the annual report for firms that have an environmental permit, see more in the subsequent section (Kolk, 2000).

3.2.5.1 Regulatory requirements on sustainability reporting in Sweden

From Jan 1st 2007 bigger companies are required to present non-financial parameters of the activities conducted by the firm. The information should also be described in the management report and be designed by taking the stakeholders into account. (FAR SRS Branschorganisationen för revisorer och rådgivare, 2007b)

These regulations are stated in Årsredovisningslagen, which is the law that regulates annual reporting (Notisum AB, 2008). Årsredovisningslagen also states that the company must account for risks of sustainability nature for future activities for the firm and regulates that environmentally harming firms must publish information on this risk (Sveriges Finansanalytikers Förening, 2007). The border between financial and non financial parameters in the annual report is being blurred. However, in the regulatory framework of sustainability reporting no demands are put on delivering quantitative information, or numbers, about the sustainability situation for an organization. (Sveriges Finansanalytikers Förening, 2007)

For future development of the field, it can be expected that also smaller firms will be required to present non-financial information in e.g. a sustainability report. This is contradicting to the common understanding by many practitioners in the field, that sustainability reporting is not likely to be regulatory demanded as a separate entity; see e.g. Lindemalm (2004). They rather believe that non-financial parameters are required in the traditional annual report, which goes in line with the trend mentioned above, that the border between non-financial and financial reporting is being blurred.

3.2.6 The quality of sustainability reports can be questioned

The information in the sustainability reports is made useful through the qualitative characteristics presented in Table 2 below (Kolk, 2000).

Characteristic	Meaning
Relevance	The report has to be relevant to the audience to whom the report is intended. Different groups of stakeholders can have different preferences.
Reliability	The reliability of the report is very important and it can be increased. A *valid description* is required due to the technical nature of some of the environmental issues. Regarding the *substance* the context of the social, economic and environmental issues is important. The information presented in the report has to be *neutral* and fair and no important information should be excluded, meaning that the report must be *complete*. *Prudence* highlights the existence of uncertainty regarding risks and potential impacts.
Understandability	The readers have different backgrounds; technical terms must therefore be explained to a larger extent than required in financial reports. The understanding is facilitated through standardization of the formats of sustainability reports.
Comparability	Standardized formats enhance the comparability which allows comparisons between different firms and enables benchmarking. The comparability can be increased by the use of consistent indicators.
Timeliness	Firms can themselves choose the frequency of publications of sustainability reports and not all of them publish the reports annually. Regardless of frequency it can be expected that the firms indicate which period of time the report covers and when the next issue will be published.
Verifiability	External third part verification increases the credibility of the report and is made by accountants, certification bodies and environmental consultants.

Table 2: Characteristics to ensure the quality of a sustainability report.

3.2.6.1 Auditing and Verification

Sustainability reporting is a rather new phenomenon with somewhat immature guidelines and regulations. The question remains on what aspects that are mandatory to treat and also how auditing can be conducted (Görman, 2004). An audit is the collection and evaluation of evidence which results in a report by the auditor; an expert statement of the auditor's opinion and level of assurance. It is voluntary to make a verification of sustainability reports; the auditing process as well as the form and content of the expert statement can therefore vary between different reports. Usually the auditing of sustainability reports is performed to assure that "the report gives a so-called 'true and fair view'" (Kolk, 2000, p. 146). In 2004 one third of the sustainability reports were externally verified by a third party (Kolk, 2004).

If the firm finds the expert statement negative they can leave it out since it is not mandatory to include such a statement in the report; this may however damage the image of the firm if knowledge of the action is leaked out to the public. For the report to be regarded credible more than an external verification is required; the general openness of communication of the firm is of great importance. (Kolk, 2000)

3.2.6.1.1 Auditing in Sweden: FAR SRS

Annual reports, and auditing and controlling of these, are subject for many regulations; in Sweden this is uphold through the organization FAR SRS. The organization works with developing professional standards and produce information for the audit profession in Sweden (FAR SRS

Branschorganisationen för revisorer och rådgivare, 2007a). The organization has, in the past, primarily concentrated itself on developing guidelines and standards for auditing concerning economic matters in annual reports. However, in recent years, the organization has also started to show interest for sustainability matters, and the auditing of these. In information material presented by the organization (FAR SRS Branschorganisationen för revisorer och rådgivare, 2007b), the organization acknowledges the message implied on several places in this report: many firms feel the pressure from stakeholders to present other information about the company than mere financial information.

FAR SRS has therefore developed an accounting recommendation on non-economic matters. FAR SRS link their recommendation to some extent with three other organizations; Sveriges Finansanalytikers Förening, Global Compact Communication on Progress and GRI (FAR SRS Branschorganisationen för revisorer och rådgivare, 2007b). In the proposal to recommendations presented by FAR SRS[4], reference is given to the guidelines presented by GRI, see section 3.4, as appropriate information to treat in a sustainability report (Styrelsen i FAR, 2004). The recommendations do not focus on the content of the report but put more effort on delivering guidelines on how to perform an audit of it, targeting auditing companies who are members of the FAR SRS organization (Styrelsen i FAR, 2004).

On an international scale FAR SRS is member of the association the European Sustainability Reporting Association[5] (ESRA). The association strives at improving sustainability reporting in Europe, by sharing best practices and common experiences. ESRA is not a legal entity but more of a network structure with participants from national institutes, universities and national authorities, as e.g. FAR SRS (The European Sustainability Reporting Association, 2009b). ESRA publishes statistics on all countries' doings related to sustainability reporting; see e.g. The European Sustainability Reporting Association (2009a).

3.2.7 The importance of a Stakeholder Analysis

Before publishing a sustainability report it is important to make a stakeholder analysis to identify the most important stakeholders (Global Reporting Initiative, 2006). There are many different definitions of a stakeholder, Freeman (1984, p. 46) defines it as "any group or individual who can affect or is affected by the achievement of the organization's objectives". The Global Reporting Institute (2006, p. 10) presents a more detailed description: "Stakeholders are defined as entities or individuals that can reasonably be expected to be significantly affected by the organization's activities, products, and/or services; and whose actions can reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives".

The stakeholders can be divided into primary and secondary, where a primary stakeholder according to Clarkson (1995, pp. 106-107) is "one without whose continuing participation the corporation cannot survive as a going concern". Secondary stakeholders are defined By Clarkson (1995, pp. 106-107) as "those who influence or affect, or are influenced or affected by, the corporation, but they are not engaged in transactions with the corporation and are not essential for its survival". The secondary stakeholders can have an impact on a company by influencing the primary stakeholders and examples on secondary stakeholder are media and activist groups. Shareholders, investors, employees, customers, suppliers, governments and communities are often regarded as primary stakeholders (Kolk, 2000).

From the stakeholder analysis a decision is taken whom to direct the sustainability report towards. The language used in the report should be chosen to fit the target group chosen. The primary

[4] We have not been able to gain access to the final recommendations.
[5] For more information see: http://www.sustainabilityreporting.eu/index.htm

stakeholders are often regarded to be the main audience, but the greatest demand often comes from secondary stakeholders as researchers and consultants. (Kolk, 2000)

The communication with stakeholders contributes to the business performance due to its powerful way of increasing loyalty and building trust (Wheeler & Sillanpää, 1997). Especially when establishing stakeholder respect it is essential to have a two-way dialogue on corporate environmental and social responsibility issues. More and more companies are beginning to realize that the stakeholders do not perceive enough value in the publication of paper-based environmental and social reports alone. (Ball, Owen, & Gray, 2000)

3.3 Collection of information: need for sophisticated information systems

If the organization wants to publish an annual or intermittent sustainability report, as customary with financial reports, it must have routines and systems for collection of the information. Hibbit and Kamp-Roelands (2002) suggest that information on companies' performance and activities is of increasing importance and that it will be subject to instant scrutiny by more and more stakeholders and lobbyists. This places demand on sophisticated and direct information systems (Meadows, 1998). To set up well functioning information collection systems, the organization must decide upon what indicators to use and how to measure them. The indicators and measurements are needed both for internal control and external communication (KPMG AB, 2009). This section presents information on how organizations can find appropriate indicators for sustainability reporting as well as various types of information systems for monitoring environmental performance, guidelines etc.

3.3.1 Indicators operationalizing the sustainability concept

An indicator serves to make a concept measurable; a means to operationalize a more aggregated construct (Bryman & Bell, 2007). Indicators are used for monitoring complex system that we wish to monitor and control (Meadows, 1998); "we measure what we care about"… "we care about what we measure" (Meadows, 1998, p. 2). Sustainability has emerged on an increasing number of agendas at companies who believe sustainable development is worth reporting to stakeholders. This development demands measurable indicators displaying the actual content of the sustainability issues that the organization would like to present. It is important to bear in mind that poorly chosen indicators may result in serious malfunctions and problems for the organization. An organization sometimes tend to over-focus on performing well, so as to report good on the chosen indicators, which may result in lowered performance on other parameters. Further, misleading indicators will cause under- or overreactions to an envisioned state, which may differ from the actual situation. Among other pitfalls worth to mention are over-aggregation, measuring what is measurable rather than what is important, deliberate falsification and overconfidence. (Meadows, 1998)

Meadows (1998, p. 9) advocates that "indicators need not be purely objective, and in fact few of them are"; the quote may take away some of the pressure of finding the "right" indicators. The reason and basis for argumentation of this quote lies in the author's understanding that indicators rest on uncertain models. This may be especially so for indicators aiming at measuring and quantifying the construct of sustainable development for an organization. Meadows (1998) argues that both "sustainability" and "development" are so called value words, which makes them even harder to define, grasp or to get a common understanding across individuals.

Meadows (1998) discusses in her report the distinction between environmental indicators and sustainability indicators; a sustainability indicator must take into consideration perspectives as time, limit or target. She also relates the relationship between growth indicators and development indicators, and means that development indicators encompass perspectives on efficiency, sufficiency, equity and quality of life. The reason for this distinction on the semantic understanding of the words is because Meadows argues that growth simply means getting larger and not necessarily

treating if it is getting better; therefore not aligned with e.g. the definition on sustainable development presented by Brundtland, see sub-section 3.1.2.

In the report by Meadows, guidance and a check-list is also presented for assessing the quality of indicators. An indicator should, according to the review by Meadows, be:

- Clear in value
- Clear in content
- Compelling
- Policy relevant (for all stakeholders to the sustainability report)
- Feasible
- Sufficient
- Timely
- Appropriate in scale
- Democratic (stakeholders should be able to verify the results by having access to them)
- Supplementary (should include information that stakeholders cannot measure themselves)
- Participatory
- Hierarchical (if the reader wants to dig into details, it should be possible. It should also be possible to quickly grasp the most important messages)
- Physical (that is e.g. not monetary worth of oil but rather tons of oil)
- Leading
- Tentative (up for discussion, learning and change)

It may be a dream scenario to accomplish and satisfy all the demands above for each indicator. More practical guidance on how indicators can be chosen to display the construct of sustainable development for an organization is presented in the GRI review, see section 3.4.

3.3.2 Information systems for sustainability purposes

Today's rapid business demands more and more information at a quicker pace; a trend that is significant for information on environmental and sustainability matters. This sub-section describes the evolvement of environmental management systems.

3.3.2.1 Demands and evolvement of systems collecting sustainability information

Information about what to include in a sustainability report and how to measure it may be guided by material from consultancy firms as Deloitte and KPMG or the guidelines from GRI. The guidelines from GRI, see review in the next section, are the most common set of guidelines but do not constitute a mandatory standard. Until today, few hard rules exist about the design of a sustainability report and the reporting is hence, in many aspects, up to the organizations' own choice. Many organizations feel that the guidelines of GRI are too demanding and they do not see the value of reporting according to the standard (Englén, Groth, & Sandahl, 2007). Hence, since there are few mandatory rules on the design of a sustainability report, very little information is in theory needed if the companies do not want to have more substance than being able to say that they have produced a report, regardless of its content. This is not, however, usually the case; most companies strive to deliver a sustainability report that can bring extra value to the firm in relations with different types of stakeholders, which brings a need for some sort of information system (Kolk, 2004).

The information system must hold up for scrutiny as a means to verify the process of designing the sustainability report (Global Reporting Initiative, 2006). The sustainability report must include information about sources of the information, notes on how difficult calculations have been conducted etc. (Global Reporting Initiative, 2006). In a study by Hibbit and Kamp-Roelands (2002), conducted in 2002, they discovered that 62% of the studied companies reported that they have an environmental management system (EMS).

3.3.2.2 ISO 14001 certification: most prominent environmental management system

ISO is a non-governmental international organization for standardization across several fields; the organization has standards both for the public and private sector and aims to reach solutions that are viable both for business purposes but also for the broader needs of society (International Organization for Standardization, 2009a). In ISO's current standardization portfolio the organization has more than 17500 standardizations (International Organization for Standardization, 2009b).

The most famous standardizations are ISO 9001 and ISO 14001 since they are generic management systems. ISO 9001 is a standardization tool for quality in organizations and contains a set of requirements for implementing a quality management system (International Organization for Standardization, 2009c) and is hence of minor value to this report. What should be more interesting is the standardization ISO 14001; it deals with environmental management systems, and aims to provide tools on how companies can minimize harmful effects on the environment, caused by the firm's activities, and to ensure that the organization strive for continual improvement of its environmental performance (International Organization for Standardization, 2009f).

ISO 14001 guidelines grew from calls from a summit in 1992 in Rio; the meeting acknowledged the need for standardized processes for developing and implementing environmental management practices (Rondinelli & Vastag, 2000). The need for a sustainable development of private and public organizations is still of utter importance for the ISO 14001 certification; the ISO organization has on several places on the company's webpage stressed the importance of sustainability when discussing environmental performance and ISO 14001 (International Organization for Standardization, 2009g).

Since ISO 14001 intends to be of generic management interest, the organization has realized that too specific requirements cannot be demanded, since they would differ from each industry or segment. The standardization rather strives to be of holistic nature and presents a strategic approach (International Organization for Standardization, 2009e). The underlying philosophy is that no matter what type of industry or company, the requirements of an effective EMS are the same, and can therefore be based on the foundation of one common standardization (International Organization for Standardization, 2009e). A summary of requirements on the organization for ISO 14001 standard can be found in Appendix B, withdrawn from Ecosystem Management Coordination US Forest Service (2005). The regulations state that the certified organization must keep a sophisticated internal documentation and control over the environmental performance in the organization, which should be audited by top management periodically. However, ISO 14001 do not force the certified organization to officially publish the information.

Among the advantages that can be reaped with adopting the ISO standards and registering it through an external auditor, adapted from International Organization for Standardization (2009d), are:

- Reduced cost of waste management
- Savings in consumption of energy and materials
- Improved corporate image among stakeholders
- Framework for continual improvement of environmental performance

Some firms may follow the directives of ISO-certification without being formally registered to the standard and hence use it as a communication tool towards stakeholders. Many organizations however, including the whole spectrum from manufacturing companies to universities, officially certify their EMS, e.g. ISO 14001, through a registered external auditor. The certification is an independent verification that the company has an acceptable environmental management program. (Rondinelli & Vastag, 2000)

Rondinelli and Vastag (2000) account for the debate that has followed the ISO 14001 standard; they give voice to the proponents for the standard, who advocate many of the advantages introduced above as e.g. managerial and competitive benefits. By enrolling to the ISO 14001 standard, the certified company often gets a competitive advantage by an improved image with stakeholders. Rondinelli and Vastag (2000) also account for the voice of critics to the ISO 14001 standard; ISO 14001 does not ensure either legal compliance or continued performance improvements. Critics may also suggest that companies that already have environmental work that is up to standard only use the ISO 14001 certification as a marketing tool without any substance (Rondinelli & Vastag, 2000).

In the pipeline for the work of the ISO organization is an upcoming set of guidelines for social responsibility. The guidance standard will be published in 2010 as ISO 26000 and be voluntary to use; ISO 26000 will not be a certification standard since it will not contain any requirements, as it does for e.g. ISO 140001. The new "standard" aims to be neither a strict legislation nor a state of complete freedom but rather suggestions to a voluntary commitment that promotes respect and responsibility based on known reference documents. ISO 26000 strives to encourage public and private organizations pursuing social responsibility. The work is, according to ISO, anchored with several stakeholders as e.g. government, NGO's and consumers. (International Organization for Standardization, 2008)

3.3.2.3 EMAS

The European Union has developed a voluntary environmental management and accounting system called Eco-Management and Audit Scheme (EMAS) (AB Svenska Miljöstyrningsrådet, 2009b). The system was founded in 1995 and aims to act as a management tool for all types of companies; from manufacturing firms to universities. EMAS facilitate and control the evaluation, reporting and continuous improvement of environmental performance (EMAS, 2009). The scheme has earlier been criticized for being too costly and administrative; in July 2008 the European Commission proposed to revise EMAS with the purpose of simplifying the administrative chores related to the system and hence reduce the administrative burden and costs. The costs have earlier been extra significant for small and medium sized enterprises. (EMAS, 2009)

EMAS is based on ISO 14001 and can serve as a communication tool for ISO 14001 certified organizations (AB Svenska Miljöstyrningsrådet, 2009b). EMAS constitute a complete environmental system, including e.g. guidelines on how environmental auditing can be performed on the organization (AB Svenska Miljöstyrningsrådet, 2009c). The scheme shares many of the advantages with the ISO 14001 guidelines, since they are based on the same foundation, and an organization can progress from ISO 14001 certification to EMAS without duplicating the work. (European Communities, 2007)

According to Claesson[6] an organization connected and registered to the EMAS system is obliged to present an environmental report. In the new EMAS directives, the opportunity is now available for the connected companies to publish directional selection of the material to the different stakeholders (AB Svenska Miljöstyrningsrådet, 2009d). The new directives also present the organization with the possibility to make so called green environmental claims in their marketing material (AB Svenska Miljöstyrningsrådet, 2009d), which can provide a competitive advantage to the firm. EMAS encourages environmental reporting to a wide range of stakeholders; a reasoning that deviate from the former traditional view upon environmental reporting as bureaucratic work demanded by governmental institutions and authorities, see Figure 6 below (AB Svenska Miljöstyrningsrådet, 2009a).

[6] Anna Claesson Nyström, University teacher Chalmers, Lecture 04/29/2009

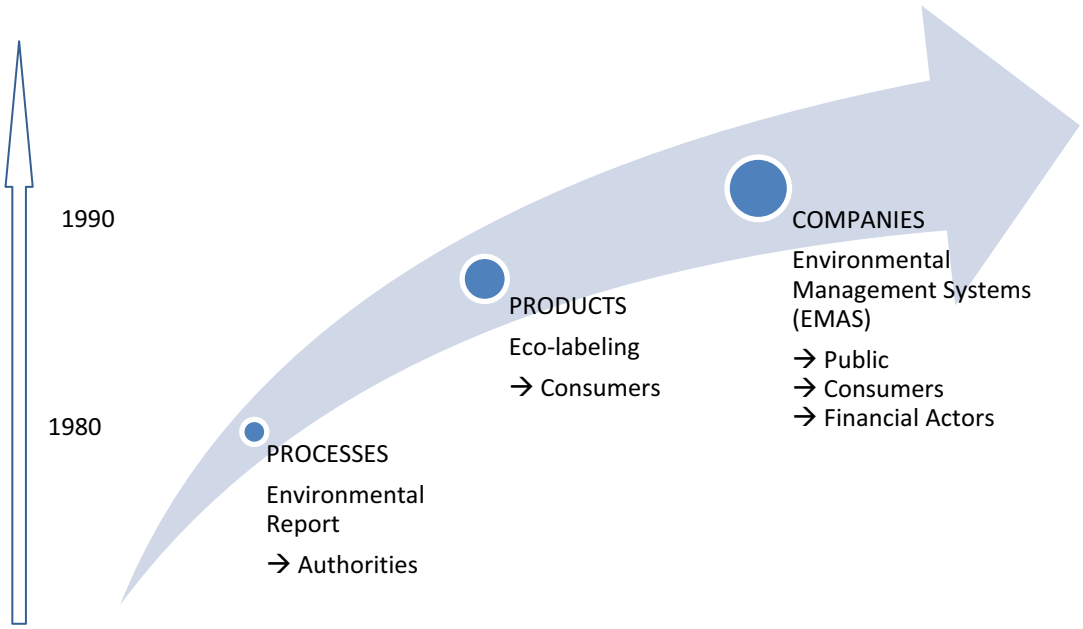

Figure 6: Development of Environmental Management System

3.3.2.4 Other systems

An organization usually has the possibility to use its own version of EMS, which does not need to be the same as the more famous ones described above, which can be understood from e.g. Chavan (2005). These own systems are not as expensive as certifications according to ISO and/or EMAS and may provide a greater state of freedom and flexibility. The freedom and flexibility can come both in terms of what aspects to include but also on how to conduct it and where to publish it compared to e.g. EMAS. The organization can still reap several of the benefits that can be accomplished with a certified system as e.g.:

- ***Financially:*** Decreased costs for waste management and reductions in insurance costs for having a better risk management system
- ***Operationally and Internally:*** Improved efficiency and more stringent controlling functions
- ***Externally:*** Use the EMS and "green" activities in communication towards various types of stakeholders

When using an independent EMS, the organization can use the flexibility to reflect the visions, goals, policy etc. in a more adaptable manner and will not be forced e.g. to devote time to education with staff, see ISO certifications in Appendix B. Rondinelli and Vastag (2000) discuss the possibility of using other environmental management systems than those owned by big standardization organizations. They acknowledge the advantages with having a company specific system and the lesser administrative burden and costs it infers. Nevertheless, they suggest that the number of corporations registering themselves in accordance with ISO and/or EMAS is increasing.

3.4 GRI Sustainability Reporting Guidelines Version 3.0

All information in section 3.4 and sub-sections is taken from the Global Reporting Institute Reporting Guidelines Version 3.0; no further references will therefore be provided within this section. (Global Reporting Initiative, 2006)

The newest version of the GRI Sustainability Reporting Guidelines consists of three equally important elements:

- Reporting Guidance
- Reporting Principles
- Standard Disclosures (including Performance Indicators)

The Reporting Guidelines Version 3.0 has a repetitive design and information is repeated in several sections in the report in order for the reader not to forget key concepts; we see no purpose of its own to restate principles and therefore describe them only once.

Table 3 below shows an overview of the different elements and a description of each part follow later in this chapter.

Element	Intention with the element	Sub-elements
Reporting Guidance		
	for Defining Content	
	for Boundary Setting	
Reporting Principles		
consists of definition,	for Defining Content	Materiality
explanation & set of tests		Stakeholder inclusiveness
		Sustainability Context
		Completeness
	for Defining Quality	Balance
		Comparability
		Accuracy
		Timeliness
		Clarity
		Reliability
Standard Disclosures	Profile	
	Management approach	
	Performance indicators	Economic
		Environmental
		Social

Table 3: Elements in the GRI Sustainability Reporting Guidelines

3.4.1 Reporting Guidance

The Reporting Guidance intends to guide the reporting organization on defining the report content and setting the boundaries for the report. The interpretation on how to use the GRI Reporting Framework is guided by the Reporting Guidance and it describes actions that can be taken and options to consider when deciding what to report.

3.4.1.1 Reporting Guidance for Defining Content

The reporting entity must decide upon the content to ensure that the presentation of the performance is reasonable and in a balanced way; expectations and interests from stakeholders must be taken into consideration. When preparing a sustainability report using the GRI Reporting Framework the following steps should be taken:

- Identify topics on which to report and relevant indicators for these topics.
- Consider the relevance of the indicators. The identification is an iterative process.
- Assessment of the topics and indicators by using the tests listed for each Reporting Principle, see Appendix C.
- After the materiality is evaluated the selected topics are prioritized and it is decided which of them that will be emphasized.

When decided what information to include in the report, the appropriateness of the report boundaries is confirmed by using the Reporting Principles of completeness, see sub-section 3.4.2.1.4.

3.4.1.2 Reporting Guidance for Boundary Setting

If the reporting company has a big or complicated structure of the organization, it must decide on which subsidiaries' and joint ventures' performances to include in the report. The entities over which the reporting organization has significant influence or control should be included in the sustainability report. There is no requirement to report equally on all entities; the level of control and influence of the reporting organization has an impact since different relationships mean different accessibility to information. There are minimum expectations for including upstream and downstream entities when reporting on indicators and management disclosures. For the entities that the reporting organization has control over, there is a requirement to include indicators of operational performance and for the ones that the reporting entity has significant influence there should be disclosures on management approach in the sustainability report. For the entities associated with key challenges for the organization due to their significant impact, but where they do not have control or significant influence, there should be boundaries for narrative disclosure.

3.4.2 Reporting Principles

The outcome of the sustainability report is described in the Reporting Principles. This element also guides the decisions of the reporting firms throughout the reporting process, e.g. the selection of topics and indicators as well as how these should be reported. The element comprises a definition, an explanation and a set of tests connected to each of the Reporting Principles. The tests can be used to evaluate how the Principles should be used. Sustainability reporting strives at achieving transparency; the Reporting Principles intend to help fulfilling that goal. The role and function of the Principles is clarified through a division into two groups. The first group consists of principles for determining topics and indicators and the second includes principles for ensuring the quality and appropriate presentation of the information presented in the report. (Global Reporting Initiative, 2006)

3.4.2.1 Reporting Principles for Defining Content

The Reporting Principles presented below should be used together with the Reporting Guidance for Defining Content.

3.4.2.1.1 Materiality

As mentioned above an organization needs to decide which topics that are relevant for their sustainability report; the topics and indicators considered to be relevant are those reflecting the economic, environmental and social impacts of the organization or influencing the decisions of stakeholders. The threshold at which a topic or an indicator becomes so important that it should be included in the report is Materiality.

When evaluating the materiality both internal and external factors should be considered. Examples of external factors are: stakeholder concerns, social expectations, expectations from international standards and agreements as well as the influence on actors in the supply chain and customers. Internal factors are e.g. the overall mission and competitive strategy of the organization. When assessing whether an impact is significant or not, the requirement of active management or organizational engagement can be used as point of reference. Generally, impacts that are subject of established concern or have been identified by using established tools, e.g. impact assessment methodologies or life cycle assessment, are regarded as being significant.

The use of Performance Indicators is also treated in the Materiality Reporting Principle. Performance can be presented at different levels of detail and varying degrees of comprehensiveness. For each specific indicator there is guidance on which level of detail that is regarded appropriate. The decision on how to present a specific indicator is guided by the perceived importance of the information in assessing the organization's performance and the possibility to make appropriate comparisons.

3.4.2.1.2 Stakeholder inclusiveness

Many decisions; e.g. the scope, boundary, application of indicators and assurance approach, have the stakeholder expectations and interests as a key reference point. For various reasons not all stakeholders are able to explicitly articulate their expectations, but the reporting entity must try to fulfill the expectations they have reason to believe that these stakeholders can have on the report. To improve the understanding of the stakeholders' requirements and expectations, the reporting entity can invite the stakeholders to participate in different activities.

The approach for defining the stakeholders that the reporting organization engaged with, how and where this engagement occurred, how this have influenced the content of the report and the sustainability activities of the organization should be documented. It should be possible to identify direct input from stakeholders and it should be explained in the report how the reporting entity has responded to reasonable expectations and interests from the stakeholders.

If the reporting entity fails in identifying and engaging the stakeholders there is a risk that the report ends up being unsuitable to its purposes and therefore lacks credibility with some stakeholders. Continuous involvement of the stakeholders increases the usefulness of the report and changes the stakeholder receptivity. If the engagement succeeds it is likely that the organization can experience ongoing learning. The increased accountability strengthens the trust between the stakeholders and the reporting organization.

3.4.2.1.3 Sustainability Context

The performance of the organization should be presented in a wider sustainability context. When publishing a sustainability report the underlying question is: *how does the organization contribute or aims to contribute in the future to the change of economic, environmental and social conditions, developments and trends?* These changes, improvements or deteriorations, can be at local, regional or global level. The report should present information on the organization's performance in relation to broad concepts of sustainability, meaning that the performance should be discussed in the contexts of the limits and demands placed on environmental or social resources at different levels.

For environmental issues this can mean that the organization should report on their activities compared to e.g. global limits on pollution levels and resource use. Regarding economic and social issues the organization can report on their performance compared to socio-economic and sustainable development goals. The context; provided by the organization's own sustainability and business strategy must be clear; the relationship between sustainability and organizational strategy should also be explained or clarified.

3.4.2.1.4 Completeness

When assessing the completeness of a report, scope, boundary and time is evaluated. Practices in information collection and the presentation of data may also be considered. In the process of determining if sufficient information is presented, the expectations from stakeholders must be considered. The information in the report needs to be complete for the time period that the report covers and the impacts and activities presented in the report should occur in the reporting period. It is important to remember that activities that produce little short-term impact may have future cumulative implications and should therefore be included in the report.

3.4.2.2 Reporting Principles for Defining Quality

These Reporting Principles aim to guarantee the quality of the report and are fundamental for effective transparency.

3.4.2.2.1 Balance

The reporting of the performance of the organization should include both positive and negative aspects so that an unbiased picture of the overall performance is provided. A distinction is needed between facts and the organization's interpretation of information.

3.4.2.2.2 Comparability

Comparability is essential when it comes to evaluating economic, social and environmental performance; the readers of the report should be able to compare present performance with past performance, performance of others and with the objectives stated by the organization. In order to enable analytical comparisons, total numbers as well as normalized data should be included. Sometimes the boundary, scope or length of the report is changed from the previous publication, and in that case the reporting entity must provide the readers with sufficient information to be able to compare reports published in the past with those that have been changed.

3.4.2.2.3 Accuracy

A further requirement for the stakeholders' ability to assess the performance of the reporting entity is that the published information is sufficiently accurate. For qualitative information the accuracy is determined by the degree of clarity, detail and the balance in presentation. Regarding quantitative information the accuracy is determined by the methods used to collect and analyze data. The appropriate degree of accuracy depends on the intended use of the information.

3.4.2.2.4 Timeliness

Right timing means that the report should be published regularly and also that the actions and performance reported on should have occurred recently. The accessibility for stakeholders and the ability to compare reports over time is also influenced by the frequency of reporting. The need to provide information must be balanced with the importance to ensure that the information is reliable.

3.4.2.2.5 Clarity

The information in the report must be understandable, accessible and usable for the readers of the report. The stakeholders that have a reasonable understanding of the reporting organization and its activities should be able to easily find and comprehend the information presented. The clarity of the report is affected by the level of aggregation of the presented information.

3.4.2.2.6 Reliability

The quality and materiality of the information can be assessed by examination of the way information is collected and analyzed in the preparation phase. The data collection and analyzing process should be documented so the readers of the report can review the information. The important decisions made in the preparation of the sustainability report also need to be accounted for, to allow the readers of the report to examine key decisions. All performance indicators should be supported by some sort of evidence; otherwise an explanation is needed on the lack of evidence.

3.4.3 Standard Disclosures

A sustainability report can comprise three different types of disclosures. *Profile* sets the overall context, e.g. the strategy, profile and governance, provided for understanding the organizational performance. The *management approach* covers the way that the organization addresses topics so that performance in specific areas can be understood. *Performance indicators* are used to present comparable information on the organization's economic, environmental and social performance. The three types of disclosures are described in more detail below.

Apart from the three types of disclosures some additional information is needed in the sustainability report: description of the organizational structure, location of the headquarter, ownership, legal form, markets served, number of employees, net sales and rewards received in the reporting period. The report parameters must also be stated, including:

- Reporting cycle and period
- Date of last published report
- Contact information in case of questions
- Process for defining materiality, prioritizing topics and identifying stakeholders
- Report boundaries
- Limitations on scope and boundary
- Data measuring techniques and assumptions
- Significant changes in the scope, boundaries or measuring techniques compared to previous reporting periods
- A table showing where to find the standard disclosures
- Current practice and policy for seeking assurance for the report

Commitments to external initiatives and memberships in associations are to be reported on. The stakeholder engagement is also important to include, see sub-section on stakeholder inclusiveness above.

3.4.3.1 Profile

The intention of this disclosure is to provide a strategic picture of the organization's relationship to sustainability so that a context for the detailed reporting is provided. The sustainability report should contain a statement, from e.g. the CEO, where the relevance of sustainability to the organization is described. The statement should include a presentation of the vision and strategy of how to manage short- and long-term key challenges associated with economic, environmental and social performance. The statement should also include broader trends affecting the organization as well as important events, performance compared to set targets, achievements and failures that occurred during the reporting period. Last, the statement should provide an outlook into the future describing the main challenges and targets for the coming years.

The key impacts of the organization on sustainability and effects on stakeholders as well as national laws and international standards should be presented. The reporting entity should explain their approach to prioritizing challenges and opportunities, propose a conclusion about progress on key topics as well as an assessment of the reasons for over- or under performance. The sustainability report should also address the impact of sustainability trends and opportunities on long-term prospects and financial performance. A prioritization of risks and opportunities based on their relevance for long-term organizational strategy, competitive position and financial value drivers should be presented.

Last, the report should contain a table that summarizes:

- Targets for the reporting period
- Performance against these targets
- Lessons learned for the current reporting period
- Targets for the next period
- Mid-term objectives and goals related to key risks and opportunities
- Description of governance mechanisms used for managing or identifying risks and opportunities

3.4.3.2 Management Approach

A brief overview of the organization's management approach to the aspects defined under each category of indicators, presented in the next sub-section, should be provided by the disclosures on management approach. Compared to the section *Strategy and Analysis,* which is a sub-section to the *Profile*, the disclosures on management approach should address the next level of detail of the organization's approach to managing the sustainability topics associated with risks and opportunities.

3.4.3.3 Performance Indicators

The performance indicators are divided into economic, environmental and social indicators where the latter is further divided into labor, human rights, society and product responsibility. Each category corresponds to a disclosure on management approach and a set of core and additional performance indicators. All indicators can be found in Appendix D.

3.4.3.3.1 Economic

The organization's impact on its stakeholders' economic conditions as well as on economic systems at local, national and global levels are included in the economic dimension of sustainability. The traditional view of an organization's financial performance is presented in the annual reports. The financial information desired in sustainability reports is of another type and should describe the organization's contribution to the sustainability of a larger economic system.

The sustainability report should include indicators on organization-wide goals regarding economic performance and policies defining the overall commitment regarding economic conditions. The economic performance indicators include the following aspects:

- Economic performance
- Market presence
- Indirect economic impacts

3.4.3.3.2 Environmental

The impact from an organization on living and non-living natural systems, including ecosystems, land, air and water are all parts of the environmental dimension of sustainability. Environmental indicators measure performance related to biodiversity, environmental compliance, environmental expenditure and impacts of products and services. Environmental indicators can measure both inputs and outputs; in inputs e.g. material, energy and water are included, outputs are e.g. emissions, effluents and waste.

Organization-wide goals regarding performance on environmental aspects and policies defining the organization's overall commitment are evaluated using environmental indicators. Other relevant information concerns procedures related to training, monitoring, corrective and preventive actions. Information on certification for environment-related performance or certification systems should also be published as well as other relevant information required for understanding the organizational performance.

3.4.3.3.3 Social

The indicators on the social dimension of sustainability encompass several aspects that aim to assess the impacts that an organization has on the social systems within which it operates. Examples on performance aspects for the social dimension are *Labor Practices and Decent Work,* often governed by regulations and agreements, and *Human Rights*, which require organizations to report on the extent to which human rights are considered in decisions on investment and the selection of suppliers and contractors. The human rights indicators cover training on human rights, non-discrimination, freedom of association, child labor, indigenous rights as well as forced and compulsory labor. A third aspect includes the *society performance indicators*, which aims at drawing attention to the impacts that an organization has on the community where it operates. These indicators also disclose how the risks occurring from interactions with other social institutions, e.g. bribery, corruption and monopoly practices, are managed. *Product responsibility performance indicators* evaluate how the products' and services' directly affect customers through health and safety, information and labeling marketing and privacy.

For a complete and detailed overview of the GRI Reporting Guidelines Version 3.0 it is recommended that the reader uses the full version of the GRI Sustainability Reporting Guidelines report that can be found at: http://www.globalreporting.org/.

4 Empiric material: Benchmarks & stakeholder analysis

This chapter presents empirical material collected from peer universities in Sweden and Swedish companies of varying size and geographical representation. The information is withdrawn from sustainability reports where they have existed and environmental reports where not. After presenting each reporting entity individually, we have in the third section of this chapter made a compilation where they are cross-examined towards each other and potential indicators in a sustainability report. The last section of this chapter comprises a stakeholder analysis and identification of potential target groups to Chalmers' sustainability report.

4.1 Environmental reports more common than sustainability reports for universities

For collection of material to the subsequent sub-sections we have used the universities' sustainability reports or environmental reports. Gothenburg University is the only Swedish university presenting a sustainability report and many universities present no complement to the economic annual report. In order not to miss out on important information we have therefore browsed the economic annual reports to see if social or environmental perspectives are merged into it; several universities present some social indicators in the traditional economic reports, however, we do not deem their importance of such weight that it could be considered that the universities have made attempts to present a sustainability report. We have therefore chosen to concentrate on the environmental reports where these have existed. The indicators in these reports are in most cases quantified; otherwise we have stated that it is not the case. The universities that present an environmental report do not always do it at a consequent and regular basis, but more as a one-off event. Some reports examined for this report are therefore older than from 2008.

One possible limitation with collection of material to the following sections could be that for some of the universities where we did not find any environmental or sustainability reports online, it is possible that they have presented a paper copy that they did not publish electronically. If so, they cannot be considered to be targeting the public since they cannot reach all stakeholders. Another potential limitation is that a report can be named something else than the traditional denominations. We do however consider this as a small threat and believe that we have a significant sample of universities to examine.

4.1.1 Lund University's Environmental report 2008

The information in this sub-section is collected from the report on environmental statistics (Larsson, 2009), where not stated otherwise.

Lund University presents on a yearly basis an environmental report (Lunds universitet Byggnad, 2008). The report aims to be complementary to the annual report. The environmental report is written on a relevant level of abstraction in general; it has much information in text in relation to numbers and quantitative measures in order to provide guidance and comments to the presented results. However, the report does not describe how and why the different areas discussed in the report are chosen or how the indicators are meant to display the specific environmental area. The intended readers of the report may be the same group as for the annual report, but the authors of the environmental report have not discussed the issue.

Content

- The environmental report presents information on *consumption of resources and procurement* on a rather aggregated level without many details. It is not self-explanatory how the areas are chosen.

- The area of *travels*, on the other hand, is presented in a very extensive and clear manner; the report presents both private and business travels, discusses limitations and possible errors in the results, plus provides proposals on actions to improve operations and environmental performance in the area.

- *Energy consumption and carbon dioxide emissions* are presented decomposed to a level where e.g. kWh/m^2 is displayed. The energy consumption and carbon dioxide emissions are also displayed as a trend over time. The report further provides information about the ratio of green energy used. As with the other areas, the authors of the environmental report propose limitations and possible sources of error with the report as well as describing measures taken for improving the results.

- *Water consumption* is presented with two measures. Information on the development of water consumption is provided and also comments to the results and a little paragraph on how the university works with improving their performance within this area.

- *Waste* is accounted for in a very detailed decomposed manner by category. As with the other categories, the waste disposal trend is shown over the previous years. The comments on the outcome relate cause and effect reasoning.

- The area of *freons* is presented with very scanty information and it is unclear how the measures are chosen. No development over time is presented or comments on how the university will work with the area to improve the measures. The report does not provide, as with the other areas of the report, information on limitations etc. to the result.

4.1.2 Stockholm University's Environmental Report 2008

The information in this sub-section is collected from the environmental report (Bäckström, 2009).

The report sets the context in the introduction of the report by describing circumstances and regulations that have an impact on the design of their environmental report. This introductory information tells e.g. that Stockholm University intends to introduce environmental management systems as ISO 14001 and EMAS as soon as possible. The report is brief and the results are summarized; the report displays clearly and in a structured manner what environmental activities Stockholm University has invested in. The authors of the report does not describe on why and how the measures and criteria are chosen or how they are evaluated. For most sections the report presents a development over time so the reader can follow the change over the past years; this outlook is often at least three years.

Content

- The report presents a short paragraph about the *travels* of the university. The statistics are collected from the university's external travel agency and focus on the travels by train between Stockholm and Gothenburg and the carbon dioxide emission related to these travels. These statistics are compared to the results of 2007. The measures do not seem to be compared to a goal or a vision and no information is given on how the university intends to improve the results.

- Stockholm University states in their environmental report the number of *video conferences* conducted over the past year. The statistics is not followed up by a development over past years or comparisons to a target. No information is presented on whether the university intends to work with improving this figure.

- In the environmental report of Stockholm University statistics are presented (as key indicators /m^2) on the consumption of *electricity, heat* and *water.* The consumption statistics are traced back to 2003, which enables the reader to easily monitor the development. The results are commented upon and to some extent benchmarked to goal figures. However, the report does not give insight in how the university aims to work with the area to improve and accomplish the need for energy efficiency.

- The report presents statistics and displaying the trend of *paper* consumption at the university. The results are not commented upon.

- The area of *waste* is de-composed to a detailed level, where dangerous waste is accounted for separately. The results are also displayed for the years of 2006 and 2007.

- The report ends with a description on the activities by Miljörådet and the number of departments certified at the university.

4.1.3 Linköping University's Environmental Report 2005

The information in this sub-section is collected from the environmental report (Carlsson, 2006).

Among the publications of annual reports and environmental reports on the website of Linköping University no later environmental report than from 2005 could be found. It is unclear whether this is because no later report is produced or because it is not published on the website. The report is of sophisticated and extensive nature treating many areas. The report has an introductory section where the environmental report is connected to the ISO 14001 and EMAS certifications. The introduction also describes the context, e.g. regulatory terms, in which the report is written, in an explanatory manner.

The environmental report is, in general, well connected to the environmental objectives of the university, presented in an appendix to the report. The goals are followed up; the un-fulfilled objectives are also accounted for even though it is not presented what the university will revise in order to fulfill the goal for a subsequent period (or if they have decided to skip it). Since the objectives are presented in the appendix, they are not used in a quantitative way in the reporting.

The report is, in many aspects, characterized by transparency and a desire for connecting the different parts of the environmental activities, e.g. environmental management system, goals, vision and policy. It presents the activities and work conducted over the year aiming at improving the environmental impact of the university and connects this to the environmental management work in a good and detailed way.

Linköping University's environmental report also includes a section where the environmental activities are described extensively; the section describes projects conducted over the year, content of research but also collaboration with society, municipality and other stakeholders. The report also includes information about the structure of the organization working with environmental issues.

Content

- The report displays the *waste* disposal between the years of 2002 and 2005 with de-composition into categories. The result is commented upon very briefly.

- The *water* consumption is presented for the years of 2004 and 2005 with one measure. It is commented upon briefly with an expected development of this measure.

- *Electricity, heat* and *cooling* are presented in a similar way as the water consumption: relatively little comments or information about the results are given and no guidance on what the university intends to do to improve the figures. As with the rest of the report the measures and indicators are not presented together with the objectives of the area, which makes it more difficult to see if the university has accomplished the objectives.

- *Travels* are included in the environmental report for the first time, and can therefore not be compared to previous years. Several measures are presented and e.g. travels by car are de-composed by the kilometer of each car type. The comments to the results are also useful for a deeper understanding of the information.

- One section is dedicated to *procurement* without presenting much information and only in a qualitative way. It is described in abstract terms and rather expresses a vision for the procurement process.

4.1.4 Karlstad University's Environmental Report 2008

The information in this sub-section is collected from the environmental report (Karlstads universitet, 2009).

The environmental report of Karlstad University starts with an introductory section where the reader learns e.g. that the university has an environmental policy and the overall objectives with environmental activities are stated. The environmental objectives are however relatively few and can seem non-specific and abstract; some of them are quantifiable which Karlstad University has not exercised. The introductory section sets the context in an acceptable manner, even though it does not address external circumstances but focus more on the internal situation.

The indirect environmental activities are accounted for in a structured manner where connection to the research activities the university conducts is clear; it provides a good edge to the report and act as a testimony that the university has deep knowledge on how it affects different stakeholders. The environmental activities that have direct impact are described below.

Content

- *Energy consumption* is displayed together with statistics from previous years. The result is compared to a clear and quantitative objective of decrease in energy consumption. Key indicators are presented in a simple manner which enables benchmarks. Energy consumption is divided into *heat* and *electricity* consumption.

- *Travels* are divided into travels to or within the work. Objectives are set for both types of travels, but in qualitative rather than quantitative measures. It is a quantifiable area, but the authors of the environmental report do not describe why they have chosen only to address it in qualitative terms. Activities to reduce the environmental impact of private travels are accounted for in a satisfying way; whereas this is not done for the travels within the work. The travels within the work are de-composed onto different categories (air, train, etc.), though measured in monetary value and not kilometers.

- *Waste disposal* is displayed by comparisons to a qualitative objective. The measures are de-composed to a detailed level and the report also includes information on waste transportation, which is unique compared to other universities. The display of development over time is also sophisticated and informative. The results are commented upon with varying depth of analysis.

- *Paper consumption* is compared to a quantifiable objective and is subject for good comparisons to the previous years. The consumption is measured in weight, which often is to prefer over monetary statements.

- *Water consumption* is not compared to any objective but is shown as a development over time and includes some key indicators. The results are scarcely commented upon.

- *Usage of chemicals* is carefully followed up, and displayed as comparisons to previous years. The results are commented upon but are not benchmarked to any objectives. Some limitations with the results are stated, which provides credibility to the results.

- *Procurement* is to be carried out bearing environmental concerns in mind according to the environmental report. The paragraph is very short without much content and contains no quantifiable measures or objectives. As with the University of Linköping, the procurement section rather expresses a vision for the process more than traditional reporting.

4.1.5 Akademi sydost's environmental report 2006-2007

The information in this sub-section is collected from the internal report on the environmental work of Akademi Sydost (Akademi Sydost, 2008).

The environmental report of Akademi Sydost includes information on the environmental activities of Blekinge Institute of Technology, University of Kalmar and Växjö University. The reason for presenting a joint report is organizational; the three universities share one environmental coordinator. The information on the universities differs somewhat in the presentation; e.g. Blekinge presents some information on the performance of social activities.

The report targets an internal audience but is presented on the universities' websites for public display. The report includes an introduction where the reader gets an understanding of the contextual setting of the report, with guidelines, regulations etc. The report is further connected to the universities' ISO certifications; the introduction explains on where the regulated information can be found. The environmental management system is described along with e.g. policies on travels. The report is to some extent presented according to the environmental goals, but not very sophisticated; the goals are not benchmarked to actual performance. The report does not describe how the goals are set or how they are used in the daily activities. The results are displayed in the same manner for each performance area, which enhances the structure of the report.

For every university the environmental activities are divided onto direct and indirect influence of the environment, which facilitates the distinction for the reader. The report has relatively much text in relation to quantitative measures. The author of the report argues that no quantitative measures are regulated in the rules for Higher Education. Different indicators are therefore used for the three universities in the environmental report. The report does not address whether the universities believe that a foundation for a clearer comparison is needed, and do not present information whether they strive to develop common quantitative indicators.

The environmental report comprises a section on organizational responsibilities for environmental performance; considering the internal target audience this section is of high importance. The report ends with conclusions and recommendations to continuous improvement on environmental performance; as a reader the section is of good value for seeing examples on focus areas and intended activities.

Content

(only direct influence is described below, since it is the biggest area in the report)

- *Travels* are not accounted for in relation to the goals set by the universities respectively (they are unique for each university). The results are displayed in the same manner for the three universities, divided into travels by car, train or flights. The report does not show a development over years.

- *Energy consumption*; the three universities pursue different goals with differing level of detail. The information does not state whether the universities try to respond to the desired follow-up measures. The amount of information on how to accomplish reduction of energy consumption differs from the three universities. The report presents consumption of *heat* and *electricity* and states the area where air-conditioning and ventilation is used. The results are commented upon and a description of some activities that have taken place during the year in order to improve the performance is provided.

- *Water consumption* is scarcely accounted for and touched upon in the text.

- As with the areas mentioned above, *paper consumption* and *waste disposal* are subject for different objectives for the entities of Akademi Sydost. For the area of paper consumption, the presentation of results complies with the proposed follow-up measures, but do not e.g. show development over years. The information on waste disposal is extremely sparse, only described in qualitative terms and not de-composed into different types.

- *Procurement* is stated to be a focus area for direct environmental influence by Akademi Sydost. The presented information is written in very general terms and do not tell much about the actual performance in the procurement process. With the sparse information presented, the reader understands that environmental aspects have not been considered key in procurement situations.

4.1.6 Royal Institute of Technology (KTH) environmental report 2004

The information in this sub-section is collected from the environmental report (Kungliga Tekniska Högskolan Administrativa Enheten, 2005).

The first paragraph of the environmental report states that KTH should produce an environmental report annually according to a governmental decision. If this is the case, these reports are not displayed on the university's website[7]. The report has a clear and structured approach when describing the influence of indirect environmental activities. The accounting of the indirect activities is related to the fact that KTH is a university; it clarifies how research and education on sustainability can enhance and improve the environmental performance. The report has some quantifications of the indirect contribution by e.g. presenting number of courses related to the subject. The direct environmental activities are also displayed in a structured and clear manner, with development over time, statistics from several years and comments to the results.

The report presents the environmental guidelines given to the departments, describes the procurement process and how environmental concerns are used in the buying processes. The report presents examples on environmental demands used in a buying situation. General goals and objectives are included in the report as well as policies, activity plans, etc. The report is generally of good structure and well fitting for a university.

Content

- From the report the reader learns that all *Electricity* is so called green electricity. A reduction of energy consumption can be seen, which is commented upon in the report.

- *Water consumption* is accounted for in simple but efficient terms.

- *Paper consumption* is displayed with a development over time and some comments to the result.

- *Waste disposal* is accounted for in a very detailed and de-composed manner, with information on several types of waste. Development over time is clear as well as comments to the results.

- *Travels* during work hours is analyzed with car transportation (driven kilometers, emissions and fuel consumption are accounted for), travels by train and flights. The results are not commented upon. The reader also learns how transportation is carried out internally at KTH campuses.

[7] Date of collection 06/08/09

4.1.7 Gothenburg University's Sustainability report 2008

The information in this sub-section is collected from the sustainability report (Ekonomiavdelningen, Miljöenheten och Personalavdelningen Göteborgs Universitet, 2009).

Gothenburg University, GU, is the only Swedish university that for 2008 publicly presented a sustainability report. The report aims to follow the standards of GRI G3 and its proposed indicators; it starts, as suggested, with an introduction by the principal of the university where she describes the context for sustainability at GU. The report further describes the values and activities of the university, as well as an attempt to analyze the stakeholders affected by the activities of the university. Examples on communication with the stakeholders are given, but no proof on whether the authors of the report have tried to analyze what the respective stakeholders want from a sustainability report.

The report is clear and structured; the report is divided according to the principle of triple bottom line. The focus of the report is the environmental approach that is given the most space. The distinction between the three areas are however not always clear-cut, and there are areas within the environmental approach that are of social character. The report comprises information on accounting principles which provides transparency for the reader. The sustainability report addresses both indirect and direct influences on sustainability.

The sustainability report of GU does not focus on comparisons or benchmarks to goal fulfillment, except on the environmental activities. The results are seldom compared to previous performance and quantitative objectives as benchmarks are used only for the environmental section. The sustainability report is most likely intended to be used as PR material and shown for external stakeholders. It is graphically very appealing and has many pictures in it which distinguishes from the environmental reports by the other universities examined for this project. With this design it is more likely that e.g. media pick up on the publication and report on it. The report has lots of text aiming to present GU as an environmentally and socially aware institution; the texts are often of the character of specific events or research projects aiming to improve performance related to sustainability matters.

Content

(the report has too many components to account for every single item)

Social

- GU's sustainability report treats *age distribution* of the employees, *gender equality* statistics, *sick leave*, number of employees that are *members of unions, recruiting targets* etc. All areas are quantified, but not commented upon. Recruiting targets are compared to the university's objective, but this is not done for the other areas. These types of statistics are sometimes already included in universities' annual reports, but are in this case extracted to a sustainability report.

- The hands-on quantifiable statistics above are complemented by texts describing events and research projects related to social aspects that have been carried out in order to improve the performance for this area.

Economic

- The economic aspects are more than the social and environmental approaches characterized by qualitative and downy descriptions.

- The report addresses the fact that innovation drives development, and discusses what new innovation projects the university is involved in.

- The sustainability report also discusses how investments in new projects are made (the prospective companies or projects are not allowed to produce alcohol, tobacco, weapons, etc. and they are also subject for demands on environmental activities).

- A short summary of GU's economic situation is provided with information on *revenue*, *profit* and *costs*.

- This heading also comprises some projects that GU has conducted during the year; the division towards the project under social aspects is not clear-cut. This section puzzles the reader and makes him wonder why and how they have decided upon the projects that are mentioned in the report.

Environmental

- The section is big and extensive in terms of amount of material. In the introduction to this section the reader learns that GU's environmental activities stem from directives and guidelines in its ISO 14001 and EMAS certifications. The section includes information on *organizational responsibilities* for environmental performance*, environmental policies* at the university*, research carried out related to environmental issues,* information on how *sustainable development is integrated into the education, openness towards to the society* (not necessarily only environmental events), *information from the respective departments* on their activities and *skills enhancing* projects.

- The sustainability report treats the area of *climate*. The energy consumption, divided into *heat* and *electricity*, is presented and compared to previous years. *Travels* are analyzed and presented together with carbon dioxide emissions in kilograms. *Water consumption* is presented with one statistics but without information on how it has been collected.

- *Procurement* is addressed and statistics on buying situations where environmental demands were used are presented.

- The sustainability report includes sparse information on *waste disposal*. It has statistics of the different types of waste relative each other.

- Routines with *chemical use and waste* are mentioned and treated briefly. It shows a reduction of cleaning chemicals and mentions a chemical handling system; the section also states some measures that have been taken in order to reduce the waste of chemical products.

- The section has included goals and objectives with descriptions on indicators and comments to the results. The goals are sometimes on a more aggregated level than the corresponding measures in the environmental reports by the other universities.

4.1.7.1 Complementing information from interviews

The sustainability report of 2008 was the first of its kind; GU had in previous years presented different sorts of environmental reports, even though the years of 2006 and 2007 included information on sustainability matters. Both Andersson[8] and Männer[9] believe that a big difference

[8] Ulf Andersson, Environmental coordinator GU, Interview 08/26/09
[9] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09

between the sustainability report of 2008 and earlier reports is the graphical representation; the environmental reports were often heavy in terms of amount of material and did not focus on designing the package of information. They believe that a graphically attractive product is more likely to be read by a wider group of readers.

The transition from an environmental report to a sustainability report is larger than the actual design of the report and aim to mirror the evolution that GU now, to a much greater extent, work with sustainability activities more than traditional environmental activities. Männer[10] further argues that a holistic perspective is important in order to implement a mindset of sustainable development. It is essential that the whole organization strive to pursue a sustainable mindset; the workforce and management need to believe that it is a worthwhile task that they would like to contribute to. Männer[11] argues that several of her colleagues at other universities in Sweden feel that the lacking interest from management on these issues is hampering the development of producing sustainability reports.

Männer[12] argues that a trend is sweeping through society and many industry partners now present sustainability reports. This trend enables GU to perform benchmarks, which they see is an advantage since no Swedish universities, apart from GU, presents a sustainability report. GU did not ponder much over the question of target group to the sustainability report and has no communication plan for distribution of the report. They believe they have a rather profound understanding of the readers to the report. Among readers to the sustainability report by GU, Andersson[13] and Männer[14] recognize other universities, industry partners and employees. In order to reach a public outside this readership, GU also presents a four page folder with a brief summary of the full report that foremost targets future students and Gothenburg's public in general.

Männer[15] advocates that the environmental section of the sustainability report is more advanced than the social and economic sections. This is due to several reasons, e.g. that the environmental section is based on the ISO 14001 certification that demands objectives and a course of action on how to reach them. The EMAS certification stipulates that GU has to present an environmental report. Therefore, the environmental activities need to be accounted for and is hence well implemented in the organization and demands less extra work.

The environmental coordinators of GU consider the development of social and economic reporting of great importance; these sections are not written by the environmental department but the HR and economic departments respectively. The HR & economic departments are not fully tuned into the new way of reporting and has not developed targets that can be reported on. Indicators are not as advanced for these sections as for the environmental reporting and less guidance can be found from the GRI indicators. As stated in the literature review, the organization of ISO is currently working on a certification or standardization system containing a set of guidelines for social responsibility, which may enhance the knowledge and need for targets under this section as well.

Even though the environmental targets stem from their ISO 14001 certification and need to be reported on, a complete infrastructure for information collection is yet to emerge. Several of the key indicators are administered and followed up manually, an expensive and time consuming process. The environmental coordinators lobby for introducing functions in the university's ordinary information systems so that reporting of sustainability activities can be merged into the ordinary

[10] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09
[11] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09
[12] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09
[13] Ulf Andersson, Environmental coordinator GU, Interview 08/26/09
[14] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09
[15] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09

routines of reporting. Männer[16] and Andersson[17] both underline that the information collection is an area under construction with e.g. information systems.

As for the future of sustainability reports at GU, Männer[18] feels confident that they will keep the format and structure of the report and will continue to report according to the guidelines of GRI. The next steps will be to further improve the social and economic sections and to get the report verified by an external auditor.

4.1.8 Information collection not described in environmental or sustainability reports

The environmental or sustainability reports do not normally state how information has been collected in order to produce the presented material. The reports do not describe the usage of information systems or how they practically work with environmental management systems and certifications as ISO 14001 or EMAS. This is naturally an area where the reporting entities are careful on which information they present since it is easy to copy the processes. Each university must therefore develop its own routines for information collection and treatment that fits the own organization and its IT structure.

4.2 Large differences between the sustainability reports published by companies

The subsequent sub-sections are descriptions from examination of sustainability reports from the industry; this is needed especially to get information on how social and economic aspects are best presented. As described in this thesis, more and more companies present a sustainability report instead of an environmental report. To see whether this has lead to a change in the amount of environmental information presented, comparisons between the environmental reports published some years ago, and the new sustainability reports are made for two companies.

4.2.1 Sustainability Report – Swedfund International AB

The information in this sub-section is collected from the sustainability report (Swedfund International AB, 2009).

Swedfund is a Swedish state owned venture capital company and development finance institution investing in low- and middle income companies. They are headquartered in Stockholm and have about 30 employees.

The sustainability report of 2008 is, for the first time, based on the GRI Reporting Guidelines Version 3.0 and includes a Limited Assurance Report. The report comprises a GRI context index, displaying under which title each GRI performance indicator can be found, which makes it easy to quickly see which GRI indicators that are used in the report.

The company refers to the Environmental Policy as well as the Code of Best Practice, which are not presented in the report, but available at the company's website. The sustainability report includes a summary of the Environmental Requirements and Social/Ethical Requirements. It also comprises a discussion on the boundary of the report and the ability for Swedfund to influence the portfolio companies. Further the limitations, reasons for these and actions to improvements are described in detail.

The reporting period is not the same for all information in the sustainability report. The information to performance indicators is from 2007, and the rest of the information is from 2008, which is not revealed until in the end of the report.

[16] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09
[17] Ulf Andersson, Environmental coordinator GU, Interview 08/26/09
[18] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09

Content

The initial CEO Statement consists of a discussion about the financial crisis, a description of actions taken to increase sustainability and a summary of some results presented in detail later in the sustainability report. The overall objective, mission and strategy are also presented.

The direct and indirect development effects are evaluated regarding potential long-term economic, social and environmental performance. A matrix, showing which criteria that are evaluated when taking decisions on an investment is also presented. To facilitate the understanding of the matrix, a case study is showing an example of how the matrix is used.

A rather large part of the report describes the organization of the company, the role of the management and their responsibilities, the process used for evaluating, investing and exiting as well as an overview of the product portfolio. The report presents the countries and business sectors where Swedfund is investing as well as the geographic and sectoral distribution of the investments.

The stakeholders, both primary and secondary, are presented together with information on interaction and communication with these. Swedfund have made a survey among the stakeholders; the results from the survey are used when making decisions on coming content of the sustainability reports.

Economic

The financial results are presented in the annual report; the sustainability report contains a discussion on direct economic value generated by the portfolio companies and indirect economic impact.

- The only published economic indicator is *minimum wages*.

Environmental

The indicators in this section are not describing the actual performance of the portfolio companies, but only present initiatives and activities taken in order to improve certain environmental areas. The information published is including the:

- Share of portfolio companies that have an *Environmental Policy*
- Share of companies having an *initiative for reducing energy consumption, water usage* and *waste generation*.

Social

A large number of social indicators are presented is Swedund's sustainability report:

- Share of portfolio companies with *no child labor* and *decent working hours*
- Share of portfolio companies with the *right to establish unions* and *the right to collective bargaining*
- Share of portfolio companies that *comply with national laws on health and safety*
- Share of portfolio companies that have *benefits above national law*
- Share of portfolio companies that have a *HIV/AIDS Program*
- Share of portfolio companies that have a *Corruption Policy*
- Share of portfolio companies that does *charity community investments*

4.2.2 Sustainability Report Samhall 2008

The information in this sub-section is collected from the annual- and sustainability report (Samhall AB, 2009).

Samhall AB is a company, owned by the Swedish State, with almost 21000 employees. The purpose of Samhall is to provide an employment for people with physical or psychic functional limitations, who have difficulties to enter the regular labor market. The report contains extensive explanations about the business in general, the role of Samhall in society, what purpose Samhall fulfills for the employees and detailed descriptions on the work done to develop the individuals.

The annual- and sustainability report is following the GRI Reporting Guidelines Version 3.0 and it is third part audited on some of the indicators presented.

Content

The report comprises a description on how the reporting principles are applied to Samhall's sustainability report and the data gathering methods used. The GRI indicators used are also stated in the report.

Economic

The economic section provides a discussion on the national economic value of Samhall and the opportunity cost that is associated with unemployed people. Samhall argues that they fulfill a societal need that no other actor does and mean that if they would not have existed, it would incur a rise of a number of costs for the Swedish State.

This section also includes a detailed description of the areas where Samhall is acting; the section is designed as a marketing tool more than presenting the reader with information on actual performance of the reporting period. Only a few indicators are presented:

- *Generated* and *distributed direct economic value*.

Environmental

The environmental training completed during the reporting period is described in the report. The report also presents information on the activities aiming at decreasing the use of vehicles and the emissions from them; the change in amount of emissions from the previous reporting period is accounted for.

Samhall was criticized in media, since their activities were said to be more environmentally harmful than alternative solutions. A response to this critique is published in the report and is complemented with new facts in the case.

Further the report includes a description on how communication with suppliers is carried out, in order to decrease the environmental effects and impact.

- *CO_2-emissions* from vehicles and buildings
- *Consumption of water, heat* and *electricity*
- *Energy consumption* per type of energy
- *Waste generation* and *recycling*
- *Hours of environmental education* and *participants*
- *Performance compared to goals* regarding business travels

Social

In this section the goals set by the Swedish State, for the business of Samhall, are presented as well as measures taken to fulfill the goals. A detailed description of how Samhall works with their employees is provided together with information, and examples, on how they work with improving the working conditions.

- *Distribution of genders, age structure* and *sector distribution* among the employees
- *Geographical distribution* of the employees
- Share of *full time employees*
- *Sickness absence rate* and *working injuries/accidents*
- *Employee turnover;* Number of *transitions from Samhall* to regular company as well as *re-transitions* from a regular company back to Samhall
- *Gender equality* e.g. women in leading positions
- Number of *education hours*

4.2.3 SKF Sustainability Report 2008

The information in this section is collected from the sustainability report included in the annual report (SKF Group, 2009), where not stated otherwise.

SKF is a Swedish company that produces bearings, seals, lubrication systems and mechatronics products and provides services connected to these products. SKF has global representation with 43000 employees worldwide. Sustainability is stated as one of the company drivers.

The SKF sustainability report is published every year embedded in the annual report. The company has adopted the GRI Reporting Guidelines Version 3.0 and a third part Limited Assurance Report is included. SKF is globally certified according to ISO 14001 and presents why in the sustainability report. It is repeatedly referred to information available at the company website only, where they e.g. present an extensive Environmental Performance Analysis and the Code of Conduct.

Four fundamental cornerstones are emphasized in the report; business, the environment, employees and the community; all assumed to be critical factors for sustaining success and growth over time. A presentation of data gathering is presented, along with motivations and descriptions to the decisions on report boundaries as well as an explanation of how the scope has changed since the previous publication. Generally it is well described how SKF is working with different issues and processes to assure that policies and sustainability targets are fulfilled.

Content

The report includes a description on how the sustainability work is organized, how dialogues with stakeholders are conducted and which indexes where SKF is present. The company presents a number of associations and voluntary initiatives they endorse and discusses the importance of caring about sustainability issues in order to achieve business opportunities. Further a presentation of the development of their environmental and sustainability reports from 1994 until present is provided. The importance of offering safe products is highlighted as well as the work for preventing accidents.

In the report SKF describes their new externally audited internal control system, how they have worked to prevent fraud risks, the internal audit of the sites to ensure that the Code of Conduct is followed and the strategies used for minimizing the events of non-compliance. The SKF Group Purchasing policy is presented as well as the requirements that hold for suppliers and a so called BeyondZero project for achieving a total net positive contribution to the environment. The company

states that they have a Group Communication Policy to ensure the consistency of the information communicated to all stakeholders.

Economic

Since the sustainability report is incorporated with the annual report only a few statistics on the economic situation are presented:

- *Net sales*
- *Cost of goods sold*, *selling and administrative expenses* and the *share of salaries, wages and social charges*.
- *Cash dividends* to AB SKF's and minority shareholders
- *Gross taxes*

Environmental

The environmental section comprises a presentation of a follow up of a former legal non-compliance, incidents occurring at different sites and the actions taken associated to these incidents. Further this section includes a timeline of the policies, targets etc. connected to environmental issues adapted by SKF. SKF's annual target to reduce the CO_2-emissions is stated and the decreased financial risk associated with reduction of energy consumption is highlighted. The company presents actions taken that aim to improve the energy savings. The work on decreasing the use of ozone depleting substances is presented as well as the requirements put on SKF from the REACH program and the reuse of packaging material.

- The *carbon intensity* in ton CO_2 per GWh power is presented for the previous four years and the direct and indirect *absolute reductions* for the previous three years.
- *Indirect CO_2-emissions for business travel* and policies for business travels are included as well as *CO_2-emissions from the logistic activities*.
- Graphs presenting the last seven years *consumption of metal as raw material* as well as the *consumption of Volatile Organic Compounds* are displayed.
- For the years 2002 – 2008 the *water consumption* as well as the *recycling rate of grinding sludge* is presented.

Social

The social section contains a timeline of activities and actions that took place at SKF between the years of 1994 and 2008 that aimed to improve the working conditions. SKF also presents their Working Climate Analysis and states the certifications achieved for occupational health. This section further includes a description on activities that SKF does for the local communities; e.g. special projects conducted in poor countries aiming to help communities, as well as awards for sustainability. Examples on indicators presented in the report:

- *Cases of fraud-related matters* confirmed in 2008 and actions taken against involved employees.

- Number of *non-compliances with the Code of Conduct* and a presentation of ways for the employees to report such incidents. They also report on *non-conformities on working hours*.
- The *percentages of full-time employment* and the *retention rate by region*.
- A presentation of the *share of females in managerial positions* in Group Management and Board of Directors and the *share of units with at least one woman in local managerial positions*.
- The percentages of units in each region having an *independent trade union*.
- The share of SKF units with *HIV/AIDS programs*.
- The *accident rate* is reported for the years 2003 – 2008.

4.2.3.1 Sustainability Report versus Environmental Report

Before starting to produce a sustainability report SKF published environmental reports. This sub-section aims to present a comparison of the content of the environmental report of 2000 with the content from the 2008 sustainability report; the examination is conducted to determine whether the transition to sustainability reports have changed the type and amount of information presented.

The environmental report (SKF Group, 2001) includes extensive tables describing the environmental performance of SKF. Table 4, copied directly from the environmental report (SKF Group, 2001, p. 20) is an example on such a table where both recycling rates and consumption are shown.

Parameter	Units	Katrineholm	Schweinfurt	Hofors	Elgin	Veenendaal	Varese
Country		Sweden	Germany	Sweden	United States	Holland	Italy
Main product		Housings	Bearings	Steel	Seals	Components	Seals
Raw material-metal	Tons	15 689	28 666	331 000	86	12 547	10 000
- rubber	Tons	0	0	0	3 565	0	722
Turning chips	Tons	8 397	10 050	6 200	0	0	11
	% recycled	100	100	100	N/A	N/A	100
Other metal scrap	Tons	5 590	6 400	124 100	125	4 811	50
	% recycled	100	100	100	100	100	100
Grinding swarf	Tons	118	3 270	800	0	740	0
	% recycled	0	100	84	N/A	0	N/A
Used oil	m3	36	576	40	33	55	0.9
	% recycled	100	100	100	100	100	100
Paper and carton	Tons	18	362	45	138	17.8	9.5
	% recycled	100	100	100	100	100	100
Water	1000 m3	59	887	5 100	91	288	24
Heating energy	GWh	9.3	89	22	0	0	0
Electric energy	GWh	47.7	117	420	19	14.8	15
Fuel oil	m3	24	423	8 000	0	0	0
Natural gas	1000 Nm3	0	2 240	0	26	2 003	852
Coal	Tons	0	0	12 000	0	0	0
LPG	Tons	191	67	12 000	31	13.3	0
Alcohols	m3	9	235	1	22	0.2	7.2
Solvents	m3	32	230	43	14	33	1.6
Oils	Tons	82	1 007	135	31	127	5.7
Grease	Tons	1.6	9	49	1	0.1	2.9
Other hydrocarbons	Tons	0	0	226	0	0	2.5
PCB on site	Yes/No	No	No	No	No	No	No
Freons	Kg	7	0	0	0	0	0

Table 4: Environmental Performance of different SKF plants during the year 2000.

The sustainability report does not include as many performance indicators; the report rather focuses on qualitative discussions on activities conducted at the company; we saw tendencies between the reports that part of the environmental performance data that was found in the environmental report is no longer published but taken away to leave space for economic and social reporting. The sustainability report is focused on emissions of carbon dioxide, which is the most current debated environmental issue, whereas in the environmental report the reader is free to interpret the published figures and judge the level of reported performance.

4.2.4 Volvo Group Sustainability Report 2008

The information in this sub-section is collected from the Volvo Group sustainability report (Volvo Group, 2009), where not stated otherwise.

The Volvo Group is a manufacturer of trucks, buses and construction equipment, marine and industrial engines as well as aerospace components. The company has about 100 000 employees in 19 countries and is headquartered in Gothenburg. Environmental care is one of three corporate values.

The sustainability report was, according to Volvo Group (2009, p. 37) "inspired by the framework provided by GRI and others". A GRI summary is included in the end of the report indicating the pages where the different GRI indicators are found. The report has not been audited by a third part, but Volvo has self declared the report to be of level B.

The sustainability report includes various descriptions of projects carried out in the different business areas and measures taken in order to improve in particular the environmental sustainability, but also projects aiming at reaching social and economic sustainability are presented.

Content

Volvo is participating in a number of associations, presented in the report. The report also presents significant events that occurred during the reporting period, the environmental policy and investments in research and development. The company has made a stakeholder analysis and an overview picture of the different stakeholder groups is presented in the sustainability report.

The company goals for growth, operating margin and employee satisfaction results are stated in the report, for the two latter the results are presented. A performance analysis, where the results are compared to the goals and explained, is provided. The sustainability report also contains a description of how the current financial crisis has affected the sustainability work and how it may explain some of the results. The performance data is presented in a score card and includes the indicators listed in the text below.

Economic

- *Net sales* and *growth in net sales*
- *Operating income* and *margin*
- *Income after financial items* and *income for the period*
- *Diluted earnings per share* and *dividend per share*
- *Return on shareholder's equity*
- *Number of vehicles delivered*

Environmental

The environmental section includes a description of the challenge with global warming and a presentation of measures taken, and numerous examples of projects in different locations, to reduce the energy consumption at Volvo.

Regarding the field of product development, the sustainability report contains a presentation of what Volvo does to improve the efficiency of their products, the work to respond to coming legislation on emission standards and the level of current and coming standards regarding emissions from trucks and buses. For some products, e.g. trucks and construction equipment, the emission data is stated in the report together with information about recycling of old products and the historical decrease of fuel consumption.

Hybrid technologies and the advantages with these are explained as well as the current status of different hybrid projects. Other fuels saving projects are presented, describing the potential savings in fuel consumption that can be realized from these projects. Carbon neutral fuels are discussed and their importance for the future is stressed. Finally, the returnable packaging system from suppliers to Volvo plants is described in the report. Volvo has summarized their environmental objectives from 2003 to 2008 into the environmental challenges *energy consumption per unit*, *GWh of renewable energy*, and *the number of sites using oil for heating*. These challenges and their corresponding results are published in the sustainability report. The environmental indicators presented in the report are presented in the bullet point list below; all results are displayed together with a comparison of the previous five years.

- *Emissions of CO_2, SO_2* and *NO_X* from production plants per net sales
- *Energy consumption* in production plants per net sales
- *Water consumption* per net sales
- *Solvent emissions* and *hazardous waste* per net sales
- Share of employees working in a plant with a *certified environmental management system*

Social

This section includes a description of the Employee attitude survey and the Code of Conduct, the work Volvo does to increase the diversity among the employees and why they perceive employee diversity important. The sustainability report comprises information on the recruitment work and the salary mapping done to avoid salary discrimination. The projects run to reduce sickness absenteeism are also presented. The following social indicators are included:

- Percentage *satisfied employees*
- Percentage *female employees*
- Percentage *women of the presidents, other senior executive positions* and *board members*
- Percentage of employees indicating they have *received information on the Code of Conduct*
- *Sickness absenteeism: total*, *in the Group's Swedish companies and by length of absenteeism, gender* and *age*
- Number of employees that have completed *anti-corruption training*

4.2.4.1 Volvo Sustainability report versus Environmental report

This section provides a comparison of the information presented in the environmental report of 1999 (Volvo Group, 2000) and the sustainability report of 2008. The former has a description of how the responsibility for environmental work is divided within the organization and a presentation of the environmental goals for each business area; none of them accounted for in the sustainability report. The environmental report also includes a more detailed description of the work to minimize usage of environmentally harmful substances. It also contains more extensive explanations than the sustainability report on why different substances and technologies are environmentally harmful and what effects they are causing.

The environmental indicators are almost the same in both reports; the contribution of CFCs is left out and the awareness of the code of conduct is added in the sustainability report. The difference in the presentation of the indicators is that they in the environmental report are stated mostly in real numbers, whereas the indicators in the sustainability report are displayed in units per net sales. The latter makes the indicators comparable over time and is to be favored even though a comparison to output in numbers or weight would to be preferred over a monetary comparison.

As can be expected, an environmental report includes very little information on social and economic issues, however a table with the most important economic key figures, e.g. sales, net profit and costs for research and development, is presented in the environmental report.

The last difference to be pointed out is that the environmental report contains information on the emissions of CO_2, NO_X and SO_X for Volvo Transport, e.g. transportation to and from production plants; the sustainability report only includes information from the production plants.

To facilitate the comparisons between the reporting entities the indicators included in the environmental and sustainability reports respectively, are summarized in tables which are further explained in the following section.

4.3 Analytical compilation of benchmarks from universities and industry

This section presents a compilation of the empirical material from benchmarks from peer universities and industry players. The section gives the reader insight into entities that produce environmental- or sustainability reports and the content of these reports. It is hence, in some aspects, a summary and short version of the previous sections. The compilation is divided into two tables for facilitating the readability of the report; the first table aims to summarize the content of environmental reports of the examined universities and the second discusses the main parts of the examined sustainability reports from Gothenburg University and the four studied companies.

The model we have developed for the compilation of sustainability reports is based on the GRI reporting guidelines, see section 3.4, and is complemented with indicators from the examined sustainability- and environmental reports. We have, when developing the model, made a qualitative cross-section of the indicators that might be interesting for Chalmers to use; the indicators in this model do not aim to be completely exhaustive. We have e.g. excluded several of the proposed indicators by GRI since we consider them of greater importance for manufacturing companies than for a university. This is in line with e.g. the sustainability report of Gothenburg University; they state that their report is designed according to GRI guidelines but do not cover all core aspects. Chalmers must conduct an investigation in order to decide upon which indicators are most important for the organization, see analysis and discussion in this report for more information on this matter.

Table 5 presented below summarizes the findings from the examined universities' environmental reports.

Environmental Reports	Lund	SU	Linköping	Karlstad	Akademi Sydost	KTH
Materials used by weight or volume						
Paper consumption		●		●	●	●
Percentage of materials used that are recycled input materials						
Energy consumption	●	●	●	●	●	
Electricity		●	●	●	●	●
Heat		●	●	●	●	
Total water withdrawal	●	●	●	●		●
Total direct and indirect greenhouse gas emissions by weight	●					
Initiatives to reduce greenhouse gas emissions and reductions achieved	●					
NO, SO, and other significant air emissions by type and weight						
Total weight of waste by type and disposal method	●	●	●	●	●	●
Travels	●	●	●	●	●	●
Environmental concerns in procurement	●	●	●	●	●	●

Table 5: Indicators included in the environmental reports.

Table 6 below is a compilation of the collected material from the sustainability reports from GU and the four examined companies.

The symbol ◯ means that the indicator is partly included in the report. The symbol ● means that the indicator is fully reported on and that all parts of it are included.

Sustainability Reports	GU	Swedfund	Samhall	SKF	Volvo
Social					
Total workforce by employment type, employment contract, and region.	●	◯	●	●	◯
Total number and rate of employee turnover by age group, gender, and region.			●	◯	
Average hours of training per year per employee by employee category.	◯	◯	●		◯
Breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.	◯		●	◯	◯
Total number of hours of sick leave.	●		●		●
Ratio of basic salary of men to women by employee category.					
Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.		◯		◯	
Total number of incidents of discrimination and actions taken.				◯	◯
Public policy positions and participation in public policy development and lobbying.	●			◯	●
Economic					
Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	◯		●	●	◯
Significant financial assistance received from government.			●		
Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	●	◯		◯	◯
Understanding and describing significant indirect economic impacts, including the extent of impacts.	●	●	●	◯	◯

Environmental					
Materials used by weight or volume				●	
Paper consumption					
Percentage of materials used that are recycled input materials				●	
Energy consumption	●		●		●
Electricity	●		●		
Heat	●		●		
Total water withdrawal	●		●	●	●
Total direct and indirect greenhouse gas emissions by weight	●		○	○	○
Initiatives to reduce greenhouse gas emissions and reductions achieved	●	○	●	●	●
NO, SO, and other significant air emissions by type and weight				○	●
Total weight of waste by type and disposal method	●		○	○	○
Travels	●		●	●	
Environmental concerns in procurement	●		●		●

Table 6: Indicators included in the sustainability reports.

For discussion and analysis of the model above, see subsequent chapters.

4.4 Stakeholders

As has been pointed out in the literature review, before commencing the work of producing a sustainability report it is vital to properly identify stakeholders affected by the activities of the reporting entity. A stakeholder analysis aims to provide insight into what actors that are affected by the activities of an entity. Stakeholders could be of primary or secondary nature. After identification of stakeholders, a decision must be made regarding the target group of the sustainability report since this is not necessarily the same group as stakeholders. The needs of these target groups must be taken into consideration when designing the sustainability report in terms of components and structure. This section presents a suggestion to identification of Chalmers' stakeholders as well as producing an idea on what groups to target with the sustainability report and their respective needs.

4.4.1 Identification of stakeholders to Chalmers

In order for us to produce a framework for a sustainability report for Chalmers, we have drafted the following figure with stakeholders to the university, see Figure 7 below. The figure is designed with aid from the interviews conducted for this thesis and the stakeholder information from GU. The inner circle represents the primary stakeholders to the reporting entity, Chalmers, and the outer includes secondary stakeholders.

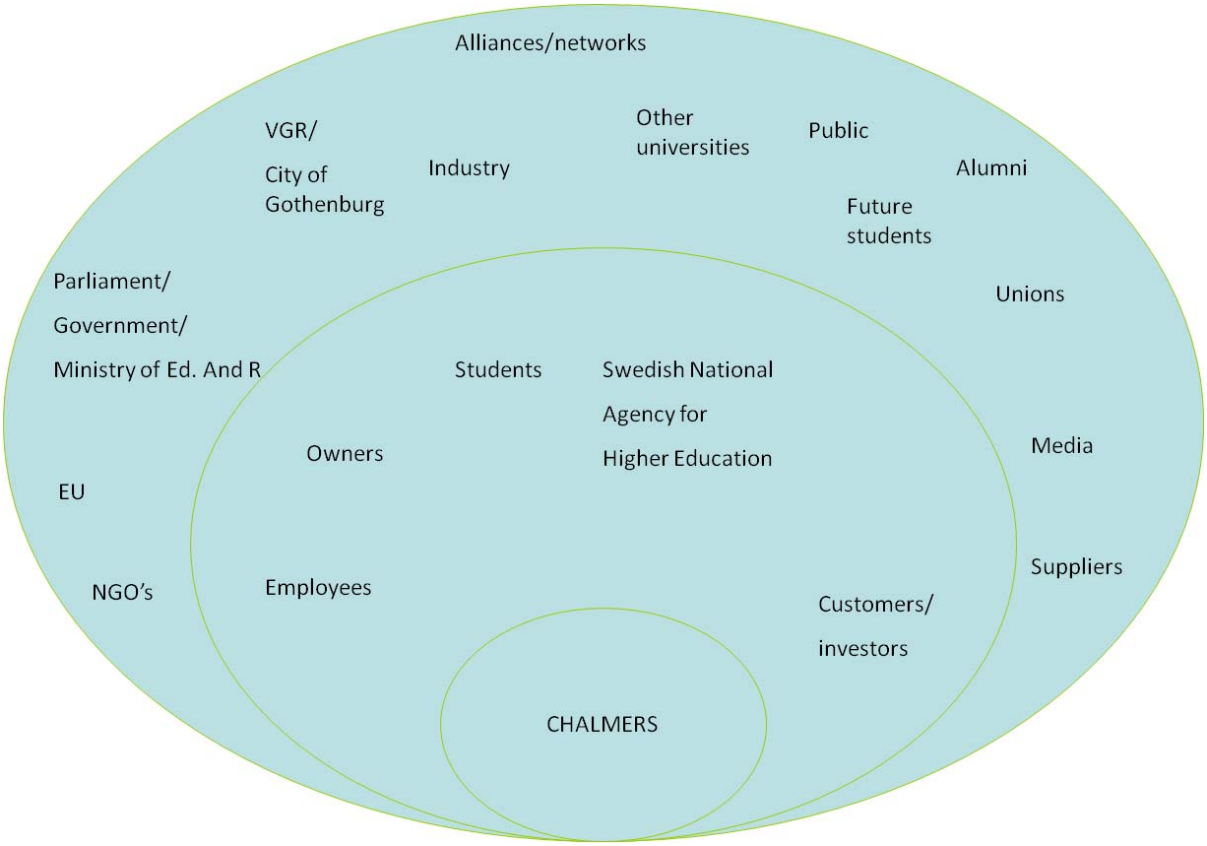

Figure 7: Chalmers' primary and secondary stakeholders.

Chalmers may have other stakeholders than those monitored in the figure above. The forces and power from different stakeholders may vary over time.

4.4.2 Target group to Chalmers' sustainability report

The target group for a sustainability report does not necessarily have to be the same as the stakeholders to the firm or university in general. We have in Figure 8 below illustrated what we believe may be relevant target groups for Chalmers' sustainability report.

Students have, naturally, been identified as primary stakeholders since their presence is absolutely necessary for the "business" of Chalmers. Students need to be attracted in some way and a sustainability report can work as a marketing tool; future students should therefore be considered a target group for a sustainability report for Chalmers.

Andersson[19] and Männer[20] recognized that the *employees* of a university may feel the need to follow up on their activities related to sustainable development and their efforts made to enhance the environmental situation. A sustainability report should therefore preferably address the employees in order to create a greater understanding of the sustainability and environmental situation for the internal work force.

Carlsten[21] mentions that Chalmers is a participating member of various types of *networks and alliances.* These coalitions are of various types of composition and size; they can include everything from peer international universities, industry representatives and governmental initiatives and range from two parties to several hundreds. The actors are interested in what types of partners that

[19] Ulf Andersson, Environmental coordinator GU, Interview 08/26/09
[20] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09
[21] Johan Carlsten, Vice President Business Relations Chalmers, Interview 08/31/09

participate in the network or alliance and their respective situation. A sustainability report for these types of actors would clarify Chalmers' viewpoint and measures taken regarding sustainable development.

From conducted interviews to this report with Andersson[22] and Lagrell[23] it has been suggested that *other universities* may be a target group to a sustainability report by Chalmers, even though we have in the figure above identified them as secondary stakeholders. Swedish universities regularly benchmark themselves towards each other, and a sustainability report for Chalmers can position the university and further strengthen its profile of being sustainability aware.

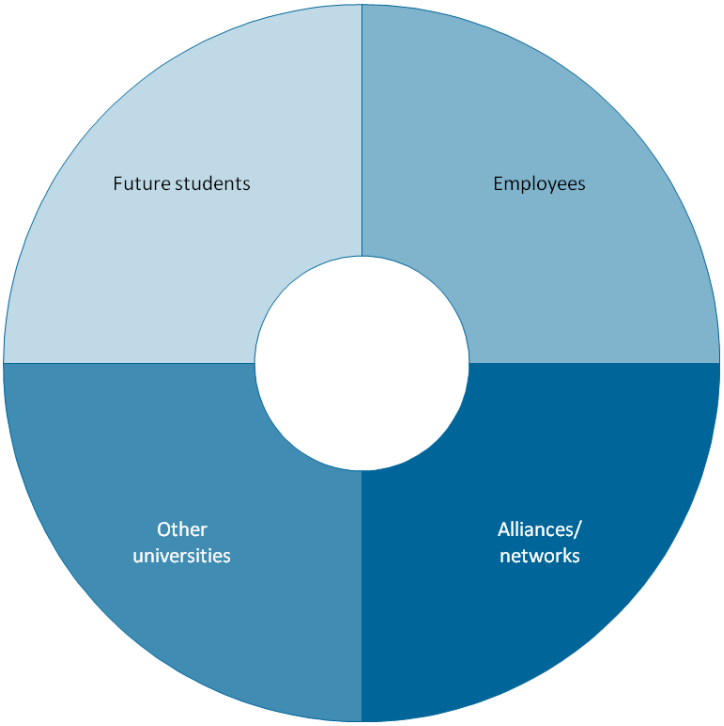

Figure 8: Target group for Chalmers' sustainability report.

Last, since defining the target group for a sustainability report is a key strategic decision, it is not advisable that the decision is taken by someone that has limited insight into the organizational situation and strategic directions of the university. Chalmers must therefore make their own decision about what groups they envision being the primary readers to the sustainability report, even though our suggestions can act as a guiding tool.

4.4.3 The needs of chosen target groups

We believe that target groups differ regarding the demands on how they would like the information presented. A reasoning that is shared with Ljung[24] and Pettersson[25]; no information requirements are general for all stakeholders.

Lagrell[26], who has made two research projects on *students*' interest in sustainability matters at GU, argues that the interest in sustainability matters from students is of rather complicated nature. Most students state that they are very positive to sustainable development and activities related to this;

[22] Ulf Andersson, Environmental coordinator GU, Interview 08/26/09
[23] Ellen Lagrell, Temporary employee GMV, Interview 08/25/09
[24] Petra Ljung, Director of Communications and Marketing Chalmers, Interview 09/07/09
[25] Jonas Pettersson, Head of Unit External Communication and Profiling Chalmers, Interview 09/07/09
[26] Ellen Lagrell, Temporary employee GMV, Interview 08/25/09

however, they do not seek information about it and do not always use the material that the university presents (e.g. GU has labeled courses that are related to sustainable development but very few students state that they choose courses based on this labeling). A key decision for reaching this target group with a sustainability report should therefore be on how to design the communication towards prospective students so that they use the sustainability report as decision material. Regarding the information that students would like to see in a sustainability report it is likely to believe that future students are most interested in whether Chalmers seems to be a fair and decent university that focus on sustainability matters; the report's content is hence more of an order qualifier.

We believe that *employees* would like to see how their employer, Chalmers, positions themselves on sustainability activities and how their work is having an impact on the performance of the university. This reasoning is strengthened by Männer[27], who states that the final sections of the sustainability report by GU, where the departments can describe their environmental activities etc. in their own terms, is much appreciated in the organization. Another dimension of the employees as target group to a sustainability report is that they may need the information for their work. Employees may bring printed versions to conferences and meetings to communicate the vision, mission and results of Chalmers; in order for the report to be able to function as such a profile material, it is important that it is not as heavy or extensive as the annual report, which is not used to its full extent, according to Ljung[28].

Alliances and networks can consist of industry partners in various constellations. In these discussions Carlsten[29] emphasizes the importance for the industry peer not to feel that Chalmers tries to be superior and brag about their activities related to sustainable development. The sustainability report of Chalmers should not be a show-off product but it is more important that Chalmers is a source of inspiration and that the report shows, in a constructive way, what Chalmers actually does to ensure sustainable development. The partners in alliances and networks want to know how current research can play a part in the improvement of existing products; e.g. energy solutions and material. Ljung[30] argues that industry actors are affected by the buzz about environmental- and sustainability issues today. She means that it is seen as obvious, and expected, that Chalmers works with sustainable development and believes that it would rather be a negative debate among network partners if Chalmers were not working with these issues. Pettersson[31] says that he has not met any inquiries from the business world about information on how Chalmers works with sustainable development. A sustainability report can be an order qualifier in these contexts in the future, it is important that Chalmers produce such a report in order to answer up to the image with and concerns for sustainable development.

Carlsten[32] argues that it is important that the information presented is fresh and feels like news, in order for the industry partners to be interested in it. Industry partners acknowledge the need of connecting all strategies, visions and policies to present a coherent package of sustainable development. The sustainability report should hence not be too independent from other material presented by Chalmers in the field but according to Carlsten[33] rather correspond to strategies, objectives etc.

[27] Jonna Bjuhr Männer, Environmental coordinator GU, Interview 09/01/09
[28] Petra Ljung, Director of Communications and Marketing Chalmers, Interview 09/07/09
[29] Johan Carlsten, Vice President Business Relations Chalmers, Interview 08/31/09
[30] Petra Ljung, Director of Communications and Marketing Chalmers, Interview 09/07/09
[31] Jonas Pettersson, Head of Unit External Communication and Profiling Chalmers, Interview 09/07/09
[32] Johan Carlsten, Vice President Business Relations Chalmers, Interview 08/31/09
[33] Johan Carlsten, Vice President Business Relations Chalmers, Interview 08/31/09

We argue that the target group with *other universities* should be treated similarly to the diverse group labeled alliances and networks since it shares many of the mechanisms and needs mentioned above; need for stringency and coherency in information material, actual measures taken to achieve the goals etc. In order to maintain a good relationship with peer universities, it is important that Chalmers do not try to act as it has the only existing solution when it comes to sustainability reporting, but rather to use it as a basis for discussion to obtain further improvements.

Ljung[34] articulates the Communications and Marketing office's ambition to move away from being an information provider towards being a communicator that builds relations and participates in dialogues. Regarding a sustainability report Ljung[35] and Pettersson[36] would like to see a more soft profile product expressing and describing qualitatively that Chalmers stands for sustainable development, without this having to be expressed explicitly, and where attention is directed towards soft values. Ljung[37] sees a risk that it would be another unused brochure if it becomes too extensive and believes that a small folder would be easier to distribute and get stakeholders to read, she also stresses the need of considering external readers to the report. Pettersson's[38] view is that many external actors today connect Chalmers with technology and environmental aspects and emphasizes the importance of including the social and economic dimensions as well.

[34] Petra Ljung, Director of Communications and Marketing Chalmers, Interview 09/07/09
[35] Petra Ljung, Director of Communications and Marketing Chalmers, Interview 09/07/09
[36] Jonas Pettersson, Head of Unit External Communication and Profiling Chalmers, Interview 09/07/09
[37] Petra Ljung, Director of Communications and Marketing Chalmers, Interview 09/07/09
[38] Jonas Pettersson, Head of Unit External Communication and Profiling Chalmers, Interview 09/07/09

5 Analysis

This chapter aims to act as a discussion on the key subjects of this thesis, relate this to Chalmers' situation and constitute a bridge to the conclusions about what Chalmers' sustainability report should contain and how it should be structured. The analysis chapter is based on the findings from the literature review and the empirical studies. The analysis discusses how and why to choose a target group for the report, elaborations on what a sustainability report contains and the measures that need to be taken in order to produce a report.

5.1 Why having a sustainability report?

As presented in the literature review there are a number of reasons to publish a sustainability report, e.g. as PR or to show transparency of the firm, and some reasons not to, e.g. the risk of sharing too much information.

The interview respondents working at Chalmers have all pointed out that it is seen as obvious that Chalmers works with sustainable development; we have concluded in this thesis that a sustainability report will likely be seen as an order qualifier in the future. Few first mover advantages can be obtained for Chalmers if it chooses to present a sustainability report, since GU already has started to publish one. For a university having "for a sustainable future" as vision, we consider a sustainability report a necessary, but nevertheless effective communication tool for spreading information about actions taken and work conducted towards a more sustainable future, hence corresponding to the vision. We argue that presenting a sustainability report will be a relatively easy way of keeping attention to the work and progress done within the field of sustainability.

As described in the literature review, see Table 2: Characteristics to ensure the quality of a sustainability report, the sustainability report has to be complete, e.g. no important information is to be left out. This also means including information on activities and performances that can be seen as negative or "bad". The distinction on what information to include and what to leave out is usually hard do draw and we cannot give a clear suggestion to actions. We do argue, however, that leaving out all negative information will harm the reputation of Chalmers and make the sustainability report less reliable and hence less useful. In the long run we believe that a high level of transparency is to prefer. Every now and then a discussion is raised in media that the students at Chalmers are of too homogenous origin: few female students, immigrants or students from the "working class". There have also been incidents, reported on in the media, of female PhD students feeling that they have been mistreated at Chalmers due to their sex. To prevent such negative publicity it is important to include e.g. statistics of students' gender and origin and incidents on mistreatment; increased transparency will decrease the room for speculation. By publishing statistics and incidents Chalmers has the opportunity to present actions and measures taken to handle the current situation.

5.2 Who is the target group?

As has been pointed out several times in this thesis, in order to get the best leverage from a report, it is important for the reporting entity to know its target group. This is, to some extent, acknowledged by the examined entities for this report which manifest itself in our compilation of sustainability reports where the mapping differs for the examined companies.

Stakeholder analysis is however not always carried out according to the schoolbook. From the interviews with representatives from GU it was obvious that little effort was put on identifying the target group to their sustainability report and analyzing their needs. This may be due to the fact that GU is the first university presenting a sustainability report and little is known about target groups for such reports in the university sector. A university is not up for scrutiny from their partners as often as in industry relations; relations often last a very long period of time which results in limited need for boosting and bragging.

The possible target groups the interviewees from GU discussed were neither as distinct nor as precise as would be advisable. Industry actors may have a greater need to always analyze what actors that are interested and affected by the company's activities. Companies may also, in general, see the report as a marketing tool to a greater extent than has been acknowledged in the university world in Sweden. If universities present some sort of complementing information to the annual report it is only of environmental kind; the environmental report has usually an internal focus which diminishes the need of identifying a target group, see Figure 9 below.

Figure 9: Development for sustainability reports.

In several places in this thesis, the importance of satisfying the target group's needs and demands on the sustainability report have been stressed; it is therefore important that, at least not initially, try to grasp after too big pieces. The reporting entity must first find out what actors that are affected or affect, directly or indirectly, the activities: stakeholders. After this narrowing down has been made, the strategic decision about the target group to the sustainability report has to be taken, which is also a reduction of potential readers to the report, see Figure 10 below. Some reporting entities may assert that their sustainability report targets all stakeholders and that all needs are covered and satisfied by the report; but this is not likely to be the case; if so the report is probably very long and very few will find the motivation to actually read it. The reduction may feel like missing opportunities but is rather the opposite, satisfy few groups well before moving onto satisfying more.

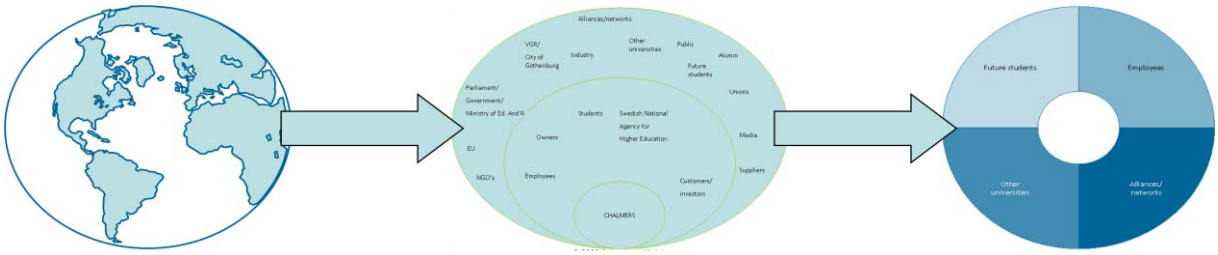

Figure 10: Narrowing down stakeholders to a target group for the sustainability report.

As representatives from the Communications and Marketing office pointed out, there is limited demand for all types of printed material when it comes to external contact, representation at fairs etc. which makes it even more important that the material, in this case the sustainability report, actually fulfills a need for information. It is also important that the report is easily accessible. We suggest that the sustainability report should be complemented with a folder summarizing key points from the report; such material would satisfy the primary needs for information without being too time consuming. Students and employees would benefit from such a publication and it is also useable in contacts with industry partners in alliances and networks. The interested reader can learn more and get a deeper understanding from the full version presented on Chalmers' website. It is likely that universities, which we suggested would be a potential target group for Chalmers' sustainability report, would like to examine the full version. Is it worth producing a printed version or is the online version sufficient? We argue that producing a printed version costs more than it is worth and if not used, despicable from an environmental perspective.

By publishing and spreading a sustainability report to chosen target groups, it is easier to control the information that reaches them; lack of information has a tendency to start rumors which are not

easy to control by the own organization. A sustainability report can bring added value to contacts with different types of stakeholders and more likely, the proposed target groups to the sustainability report, if they realize they want the information. This has to be accomplished by a push-strategy, see Figure 11 below. With this push-strategy a demand can grow from the existing products; the target groups can then learn that the information presented in the sustainability report is actually interesting and something they would like to learn more about.

Figure 11: Push-strategy to create demand for a sustainability report.

Last, it is important to remember that if not having identified the target group for the sustainability report properly, after considering the reporting entities' stakeholders in general, the virtue of presenting a sustainability report, as e.g. increasing trust and loyalty cannot be fully exploited.

5.3 What information does a sustainability report contain & how is it structured?

By a rather extensive review of content in sustainability reports, both on a theoretical level, but also from empirical experiences, it has become obvious that standards and frameworks when it comes to infrastructure are still raw and somewhat unclear. The sustainability reports differ quite substantially between reporting entities especially presentation wise, but also on what indicators they use. Mandatory rules are yet to emerge for sustainability reporting, which may be in line for development, e.g. since bigger firms now are to present non-financial parameters of their activities and regulations on environmental reporting are just introduced.

5.3.1 Emerging regulations and auditing

This thesis has described the interest of many big international actors regarding sustainable development in general, and sustainability reporting in particular. With these global players, both from industry in the form of e.g. consultants, but also coalitions as GRI, the field is likely to grow at a faster rate. The lobbying, from organizations and consultancy firms, realizing that this may be a new field for business opportunities and therefore increasing their efforts to make it mandatory, may also have had an impact on the fact that the regulatory landscape is now building, e.g. with the demand on reporting of non-financial parameters. Governments may not want to leave it in the hands of industry actors and therefore feel the need to set standards and regulations. In case of a stricter regulatory context to sustainability reporting, Chalmers must be prepared to comply with these demands.

When regulatory requirements and demands on sustainability reporting are winning ground, auditing and verification are becoming increasingly important, in order to verify that the reporting entities comply with rules and regulations, see Figure 12. Auditing or third part verification is mandatory for big companies, and has so been for many years, for annual reports. Regulations for sustainability reporting can probably not be as rigid and strict as for traditional economic reporting, since the company's actual activities and organization will have a bigger influence on what they choose to report on than for more hands-on profit and revenue demands. Auditors of sustainability reports must still ensure that the public is not fooled or mislead by the information presented. We believe that regulations will try to ensure that the reporting entities report the "truth, the whole truth and nothing but the truth", hence strive to make certain that the companies do not try to hide activities

or performance that have been hampering to or even destroying sustainable development, and by doing so fooling third part that have limited knowledge and access to information.

Figure 12: Description of the needs for external auditing and verification.

It is difficult to foresee how a potential regulation on sustainability reports could be designed. Since the GRI reporting guidelines are accepted as the general guidelines within this field, we believe that a potential regulation will be based on these guidelines. We argue that Chalmers do not need to take a possible regulation into consideration when initializing the work of producing a sustainability report. Complying with the GRI guidelines, however, would be advisable for several reasons, one being the fact that the GRI guidelines likely would be used as a reference point for a possible upcoming regulation.

The potential development with increased need for auditing or third part verification for sustainability reports may be seen as restraining and as an extra burden, but for many big firms, as the examined companies SKF and Volvo, it should not be a major problem since they have already developed frameworks that comply fairly well with GRI guidelines. However, fact remains that it is probably more advantageous to present a sustainability report today than if it is becoming mandatory; no demands are today put on the design and content of report, means little risk and medium high reward.

5.3.2 The content of the reports differs with the rationale for reporting

As we have seen in the empirical examination of different sustainability reports, performance indicators used, the qualitative information provided and the structure of the report depends on the type of organization and the context within which the reporting entity is operating; GU has not the same motives or type of readers to their report as Volvo. This corresponds to the information presented in the literature review. The different organizational contexts have implications on what and how the companies choose to report, even though all examined entities for this report base their reporting on GRI guidelines and indicators, see chapter 3.4. The GRI guidelines are applicable for most types of organizations and are well aligned with the common perception of corporate sustainability with the triple bottom line approach. Swedfund, as a venture capital company and development finance institution investing in low- and middle income companies, has been very interesting for analyzing purposes; they miss out on many of the suggested GRI indicators in order to save space for activities on sustainability matters that are not covered fully by GRI.

This thesis comprises information on several self-assessment tools, to see whether the indicators that may be taken from GRI suggestions fit the organization's needs. It seems from our empirical studies as the reporting entities make moderate attempts to perform critical assessment of GRI indicators and their importance; more differences between the reports can often be found in the

qualitative text that strive to mirror the organization and its activities. Differences can also be found between the reports on what they would like to stress; e.g. GU emphasizes their educational impact on sustainable development, Samhall stresses their social positive impact and Swedfund presents information on how they work with responsible financing. That the company mirrors its sustainability report to the actual activities of the reporting entity should not be seen as negative, see Figure 13, but rather as a mean to give the report more dignity, since it then to a much greater extent than an environmental report work as marketing material.

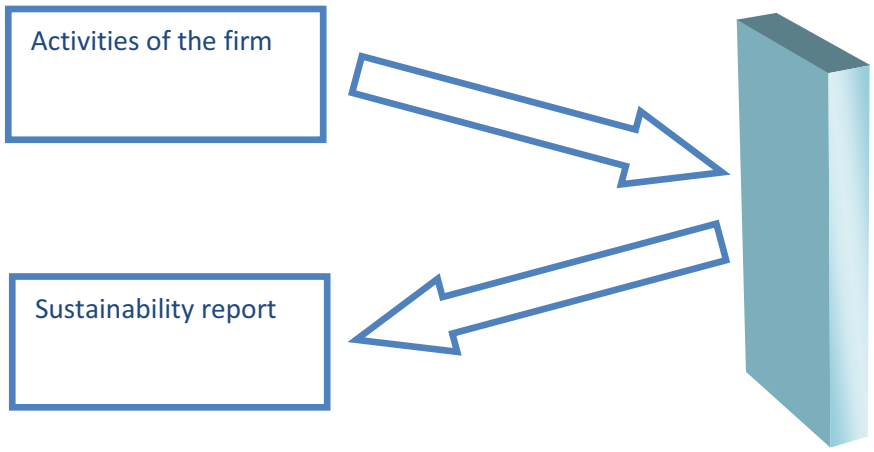

Figure 13: Graphical description – the report should mirror the organization.

With the basis and understanding from Figure 13 above, we draw the conclusion that Chalmers should use their current situation as a starting point. Since Chalmers has an *Environmental and Sustainability Policy*, we suggest that it can be presented in the sustainability report together with a qualitative description on whether there have been any cases of non-compliance with the policy and how the work is conducted to assure that the policy is followed. Additionally, Chalmers has formulated a number of environmental targets connected to the Environmental and Sustainability Policy, covering different aspects and each corresponding to a key performance indicator to enable measurements on progress. We argue that it would be advisable to report on these indicators in a sustainability report since the chosen indicators already have been developed by Chalmers as something they want to follow up and work with. The targets cover different aspects of Chalmers activities including education, research and innovation, cooperation, work-life, campus environment and EMS. Since the process of identifying the targets and indicators is still in progress, we do not discuss this further.

As introduced in section 5.2, we encourage the production of a small folder summarizing the most important and interesting takeaways from the sustainability report; this suggestion was based on the fact that the annual report is not used, to its full extent, due to its size and weight. In Chalmers' range of information material a similar folder exists called *Facts Chalmers 2008*, with summarized information about Chalmers. Chalmers can choose between adding a page or two to the existing folder or develop an additional one with only sustainability issues. We suggest that Chalmers should only publish an online version of the full length sustainability report; it is advantageous from an environmental perspective, it will save costs and increase the likelihood for the sustainability report to be a product presented on annual basis so that the information always is up to date.

We further encourage Chalmers to use the idea of GU that every department has a space to present their work connected to sustainable development. This would get every department involved in the creation of the sustainability report and most likely make them interested in comparing their work to the other departments, which is in line with a push-strategy to reach an intended target group. It is

important however to ensure that the environmental department has the overall responsibility also over these sections, and make certain that they provide consistency and meaning of the report.

5.3.3 Indicators

As mentioned above, we believe it is advisable for Chalmers to comply with the GRI reporting guidelines. When publishing a sustainability report for the first time we think it is advantageous to base the report on a standardized framework to ensure that no important parts are missed out. By presenting key indicators and use a standardized format, Chalmers can be benchmarked both to itself over time (regardless if the university is expanding) and also to other universities.

Since the sustainability reports are more company adapted than the traditional annual reports it hinders the comparisons across firms; nevertheless we have in chapter 4.3 conducted a compilation of environmental reports and sustainability reports, that aims to act as a guide to the actual content of the reports. Among the overall conclusions that can be drawn from this compilation is that the social and economic reporting are somewhat underdeveloped compared to the environmental reporting.

5.3.3.1 Social

As for social aspects; all of the examined entities report on basic personnel statistics as number of employees etc., most with a breakdown according to gender and age, whereas other, simple as statistics as turn-over on employees or number of hours of sick leave[39], are not always reported on. We do not know whether this is because the reporting entities needed to save space, have made a deliberate choice and considered it unnecessary or not applicable for that specific organization or merely missed out on many indicators due to lack of experience in the field of social reporting. All the indicators used for social reporting in our compilation ought to be relatively easy to get information on by withdrawal from human resource systems; no extra infrastructure is therefore needed for information collection but only to use secondary data sources for the statistics.

As discussed in section 5.1 social reporting is important to Chalmers in order to respond to the negative publicity that has flourished in media at several occasions. This sub-section includes examples on indicators that are compiled from Table 6 and adjusted to fit Chalmers as a university of technology and are complemented with others, see Table 8 and Table 9.

Indicators from the Analytical compilation
•Total workforce by employment type, employment contract, and campus •Total number and rate of employee turnover by age group, gender, and region •Average hours of training per year per employee by employee category •Breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity •Total number of hours of sick leave •Ratio of basic salary of men to women by employee category •Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening •Total number of incidents of discrimination and actions taken •Public policy positions and participation in public policy development and lobbying

Table 7: Indicators from the Analytical compilation to be included in Chalmers' sustainability report.

[39] Sick leave is not a suggested GRI indicator, but is common in Swedish social reporting and has therefore been included by us in the compilation of indicators.

The indicators presented in Table 7 all aim at describing the working situation for employees. We believe that it is of great importance to also include information about the students; we have in Table 8 proposed suggestions to examples on indicators for this:

Additionally identified indicators
•Share of female students •Share of students who are immigrants •Geographical area of recruitment of new students •Share of students coming from the "working class"

Table 8: Additionally identified indicators describing the students at Chalmers.

Further, Chalmers' sustainability report should contain a qualitative presentation of the work conducted in order to try to achieve a more heterogeneous group of students, researchers and other employees.

One dimension that differs between Chalmers and the companies that we studied is the fact that Chalmers is giving education on the matter of sustainable development, which is a positive contribution to sustainability. Samhall's sustainability report may be interesting for comparisons; they have an extensive qualitative description of the societal opportunity costs that would occur if Samhall did not exist. The positive sustainability contribution that Chalmers produces is hard to quantify, and we believe that a qualitative discussion about the different dimensions that the education in sustainable development has is the best way to deal with the issue. It is hard to predict what impact the education will have for future business in Sweden and globally; we believe that Chalmers' students have a greater awareness of sustainability issues than other students, but acknowledge that the societal result of this awareness is too hard to forecast.

Chalmers also conducts research within the field of sustainable development, which should be seen as a positive contribution. We believe that it would be a good idea to follow up the results of the research and describe what concrete measures and regulations that the findings of Chalmers' researchers give rise to. Some quantified indicators that can be used for measuring the positive contribution of education and research are presented in Table 9.

Indicators connected to research and education on sustainable development
•Number of students attending courses that treat sustainable development •Share of the courses that include sustainable development •Number of publications and theses dealing with sustainable development

Table 9: Identified indicators that describe the research and education connected to sustainable development.

5.3.3.2 Economic

The economic aspects and indicators suggested by GRI are still under-developed and rather few; a reasoning that is strengthened by the interviewees of GU. This results in non-consistency when it comes to reporting and uncertainty on how to design and structure this section. We believe this lack of guidance is due to the fact that the definition on what economic sustainability actually is, is still in its infancy and an area that needs to be further researched upon. The reason for the meaning of economic sustainability to be raw and immature may be because of the heritage of traditional economic reporting; everyone knows what economic indicators and statistics that should be displayed in order to assess the performance of a company. Many people may not see the need for a

concept as “economic sustainability” but think that traditional economic reporting should be enough; this may be hampering and resulting in a logical leap when defining what economic sustainability is. In sum, we believe that the economic indicators will develop and become more consistent in the coming years, and that GRI eventually will present more guidance to this area.

The indicators used by other organizations today, presented in Table 6, do not all fit Chalmers, it is e.g. difficult to quantify the direct economic value generated and distributed. With the indicators from Table 6 as a starting point, we have adjusted the ones that we believe should be included to fit Chalmers. These are presented in Table 10 below.

Indicators from the Analytical compilation
•Operating income •Operating costs •Employee compensation •Significant financial assistance received from government, public foundations and companies

Table 10: Economic indicators from the analytical compilation adjusted to fit Chalmers.

The indicator of *understanding and describing significant indirect economic impacts, including the extent of impacts,* see Table 7, can be fulfilled by the discussion of an economic quantification of the research and education on sustainable development which was described in the previous sub-section.

The question on which of the economic figures presented in the annual report that should be used also in a sustainability report as well depends on how separate the sustainability report should be, e.g. if the sustainability report is to be included as a part of the annual report, as SKF, or not. As a complement to the above presented indicators we argue it to be of interest for several of the proposed target groups to get information on investments in research and education on sustainable development. Qualitatively we would like to see information on how investments into new projects are made and what demands Chalmers places on suppliers in procurement processes.

Innovations are a big part of the research conducted at Chalmers. Innovations are novelties, part of the development of society and hence have economic consequences. These consequences are difficult to quantify and there are many different indirect impacts that can be hard to foresee. Therefore we have not identified any indicators for innovations; we argue that a qualitative description may be the best way to present this information.

5.3.3.3 Environmental

The third part of sustainability reports, the environmental section, is the most advanced and developed since environmental reporting was the mother of sustainability reporting. We have for this study made comparisons between earlier years’ environmental reports and 2008’s sustainability reports for SKF and Volvo. Few clear-cut and remarking conclusions can be drawn; but we see tendencies that sustainability reports have a propensity to present less information but focus more on the design and packaging of information. A sustainability report is more of a profile information material whereas the environmental report, with its often internal focus, is often jammed with statistics often de-composed to a rather detailed level. This may be somewhat contradicting since more and more companies now are certified according to ISO 14001, which demands that the organization have environmental objectives that should be fulfilled. The environmental section in the sustainability report could therefore be based on the statistics that are needed for ISO 14001 purposes, which would make it easier and more natural for the reporting entities and not increase the workload. The biggest differences and similarities that can be distinguished between the

universities' environmental reports and GU's and the companies' sustainability reports are summarized in Figure 14 below.

Figure 14: Differences between the universities' environmental reports and the sustainability reports.

Since Chalmers recently have taken the decision to implement the ISO 14001 EMS they are forced to keep strict internal documentation and control over the organization's environmental performance. There are no requirements to publish this information publically, but since Chalmers wants to publish a sustainability report, we believe that it is convenient to use the already documented information as the environmental indicators. Further the ISO 140001 certification requires, see Appendix B, that Chalmers identifies environmental aspects and related impacts that the organization can control or have influence over. These environmental aspects can be reported on in the sustainability report together with qualitative information on how Chalmers works to decrease the impacts. Since the ISO 14001 requirements do not state which indicators that are to be used when reporting on the environmental performance, Chalmers can choose the indicators they believe fitting. To prevent double work we suggest that Chalmers choose the environmental indicators from GRI and then report on these to fulfill the ISO 14001 requirements.

For the environmental indicators we have suggestions on indicators used in environmental reports and sustainability reports, see Table 5 and Table 6. Not all of the indicators from Table 5 and Table 6 are suitable for Chalmers to report on, we have therefore selected the ones that we believe are the

most appropriate, added others that we believe are important and adjusted them to fit Chalmers. These are presented in Table 11 below.

Indicators from environmental and sustainability reports
•Paper consumption •Energy consumption •Electricity •Heat •Total water withdrawal •Total direct and indirect greenhouse gas emissions by weight •Initiatives to reduce greenhouse gas emissions and reductions achieved •Total weight of waste by type and disposal method •Travels and Transportation •Environmental concerns in procurement •Use of chemicals within the office cleaning •Substitution of chemicals used in the laboratories

Table 11: Environmental indicators to be included in the sustainability report.

In addition to these indicators, we argue that it is important to include qualitative information on ongoing projects and actions taken to improve the environmental performance and situation of Chalmers. As mentioned in this thesis, Chalmers currently works with developing a number of environmental targets that are meant to be revised annually and complemented with an action plan to each of the targets. We believe it to be suitable to present the action plan for each reporting period together with an assessment of whether the plan was followed and explanations of eventual lapses from the original plan.

5.4 How to accomplish the report in terms of data collection?

In order for the sustainability report to have an impact and practical application in the organization it is vital that the information is relatively easily accessible so that the hurdle to gain access to it is not too big. We believe that this has been a big obstacle for the universities' environmental reports, which have had a hampering effect and resulted in that several of them do not present yearly reports. Even for the entities that present annual sustainability reports as e.g. GU, the infrastructure for information collection is not fully developed and for several areas carried out manually, which makes the data gathering more expensive, time consuming and less accurate since it could be subject for intra-observer non-consistency.

Literature examined for this thesis suggests that information systems for collecting information to the sustainability report are needed. However the literature does not give aid on how these information systems should be designed or how the infrastructure could be designed practically. In order for sustainability reporting to gain bigger recognition and usage in industry, aid and guidance on how to collect the needed information would be appreciated, especially for small reporting entities that do not have the financial strength and experience as e.g. Volvo and SKF have on how to design these systems. We believe that this gap in literature is hampering the development of diffusion of sustainability reports, since small actors do not know how to collect the needed information for such reports.

We suggest that the EMS for Chalmers should be implemented in such a way that the information collection processes can be integrated in the daily operations, not to be an extra burden to the employees. We believe that a common new system for information collection to the sustainability report is neither advisable nor feasible; employees to the reporting entity would probably not bother

entering additional information in a new system. Best would be if routines were developed where the sustainability issues are entered directly into the entity's ordinary information handling systems; e.g. when placing orders in a procurement system: fill in a field with material consumption and tick if it is of a recyclable source or when employees fill in the calendar with events that are to take place, make them tick a box if it concerns sustainability issues. By integrating the need for sustainability statistics into the ordinary routines, the likelihood of getting the actual information increases along with improved accuracy and probably also a greater understanding with the employees, who are not burdened with an extra workload. The cooperation with employees in producing a sustainability report is a great asset and will facilitate the work of finding the right information, since the data needs to be collected from several different types of data points.

It is important to emphasize that an information system for data collection takes time to build up and integrate with daily routines, which is confirmed by the interviews with GU. The development of an efficient system is a process of continuous improvement. The involvement of the employees plays a large role; it is very important to get everyone "onboard" and make them understand why their participation is important and be able to show the result of their actions.

Some of the data needed for the sustainability report is already published in other places today. Such data is e.g. the economic indicators like e.g. operating income and costs as well as some of the social indicators e.g. the employee statistics and share of female students. Regarding the environmental data, we suggest that Chalmers benchmark the other universities' environmental reports to see how they have collected their information. The procedures for data collection for some of the environmental indicators are straightforward; e.g. Chalmersfastigheter and Akademiska Hus should be able to provide Chalmers with information of the energy consumption, divided into heat and electricity, together with information on which company they buy their energy from. By getting the information about the source of the energy Chalmers can calculate the total carbon dioxide emitted for the reporting period.

To obtain a consistency and keep the same focus through the whole report, we argue that it would be advantageous if the environmental coordinator has the overall responsibility for the production of a sustainability report. If the different parts (economic, environmental and social) are written by different departments it can be difficult to achieve a coherent report; GU experienced difficulties to get in contact with the different departments and we believe that there is a risk that Chalmers would face the same problem. Appointing someone as responsible is also good to ensure that the work is really being conducted.

Last, we see that keeping indicators over the years, as many of the universities do in their environmental reports, enable comparisons over years and make it easy to analyze possible improvements or other trends. By using the same indicators over the years, information collection is also facilitated since the routines are already in place on how to collect the data. It is also an informational advantage to use wide-spread and commonly used indicators to enable comparisons and benchmark to other entities, another reason for complying with the GRI guidelines and indicators.

6 Conclusions

This chapter aims to answer the research questions presented initially, that have not been completely answered or satisfied by the other material presented in this report:

- What groups should Chalmers target with its sustainability report?
- What information should be included in a sustainability report for Chalmers and how should the sustainability report be structured?
- How can the information needed be collected and published and what steps need to be taken in order to accomplish the report?

The suggestions to answers to these questions need to be complemented with critical success factors vital for the production of Chalmers' sustainability report, see Figure 15 below.

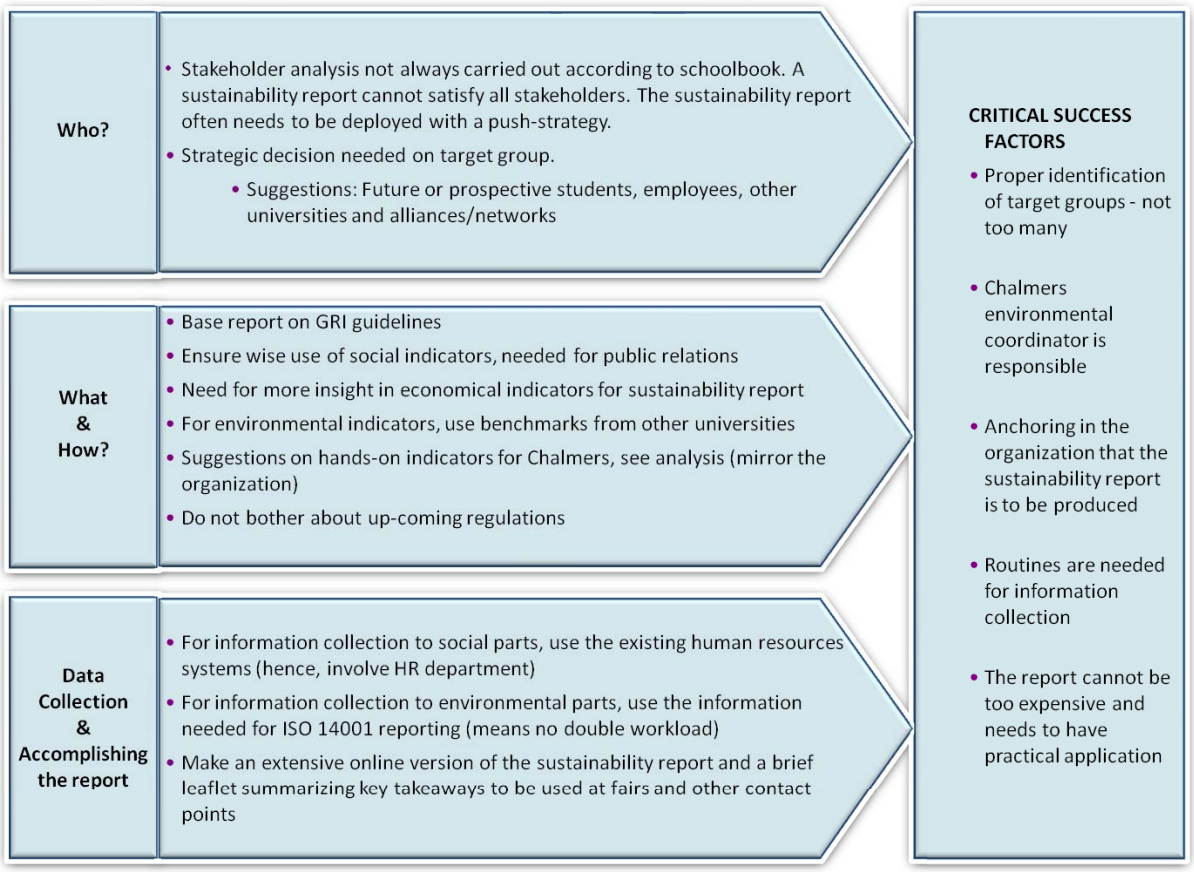

Figure 15: Summary of the main conclusions.

7 Recommendations for future actions for Chalmers

Short term recommendations (<2 years)

1. Talk to Chalmers' PR agency on how to profile a potential sustainability report (they have agreed upon free consultation on the design).

2. Conduct a thorough stakeholder analysis, maybe through a bachelor thesis, and take a strategic decision on management level on potential target group for a sustainability report.

3. Evaluate the indicators proposed in this report and perform a critical assessment for the applicability for Chalmers (should preferably be designed as a cross-department workshop with representatives from environmental department, HR department, economics department, marketing department as well as representatives with insight into the activities of Chalmers).

4. Examine the information handling routines at Chalmers, and decide upon how the information and statistics needed for the sustainability report should be collected (preferably made by the environmental coordinator with insight into the paths of the organization).

5. Connect at an early stage the implementation and certification according to ISO 14001 to report it in the form of a sustainability report (ensures that the work is not conducted twice).

Long term recommendations (>2 years)

6. Develop an interactive version of the sustainability report on Chalmers' webpage where e.g. the website visitor can measure their ecological footprint and compare it to the one of Chalmers.

7. Analyze the implications of ISO 26000 and how this should be integrated in Chalmers' sustainability report.

8. Participate in discussions on how to report the economic sustainability.

9. When the first sustainability report is presented, work with it proactively and as a marketing material.

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Appendix A: Deloitte sustainability reporting scorecard

The Sustainability reporting scorecard presented below is adopted from Deloitte & Touche Global Environment & Sustainability Services (2002a, p. 6).

Communicate effectively	1.Provide Corporate Context
	2.Follow Basic Principles for Reporting
	3.Cover Qualitative Reporting Characteristics
	4.Design an Effective Report Structure
	5.Optimize Readability
	6. Allow for Quick Reading
Identify Relevance	7.Identify and Address Key Stakeholders
	8.Identify and Describe Key Relevant Issues
Demonstrate Commitment and Management Quality	9.Include Sustainable Development Vision and Strategy
	10.Formulate Top Mgmt Commitment
	11.Characterize Responsibilities and Organization Structure
	12.Demonstrate Action
	13.Describe Management System and Integration into Business Processes
	14.Describe Management of Risks and Opportunities
Address the Sustainable Development Agenda	15.Describe Innovation for more Sustainability
	16.Demonstrate a sustainable Value/Supply Chain
	17.Describe Financial Implications and wider Economic Impacts
	18.Demonstrate Employee Involvement/Relationship
	19.Include Interactions and Partnerships with Civil Society
	20.Describe working on Framework Conditions and Public Policies for sustainability
Quantity Performance	21.Use effective and meaningful Metrics and Indicators
	22.Specify Data Quality and Accuracy
	23.Show Trends
	24.Provide Targets
	25.Include Interpretation and Benchmarks
Achieve Credibility	26.Describe Engagement with Stakeholders
	27.Optimize Balance of Issues and Suitability
	28.Demonstrate Connection to Reality
	29.Enable Accessibility and Interactivity for contacts, feedback and for further information
	30.Use Assurance Services
Additional Specifications	Reporting Organization
	Assessed Report
	User of the Scorecard

Appendix B: Summary of Requirements for ISO 14001:2004

All information in Appendix B is copied directly from a pdf-document provided by the US Forest Service (Ecosystem Management Coordination US Forest Service, 2005).

February 24, 2005

This document provides a summary of the requirement of ISO 14001:2004, which is an international standard describing the specification and requirements for an environmental management system (EMS).

ELEMENT-BY-ELEMENT GUIDANCE

ISO 14001 Requirement: 4.1 General requirements

An organization must establish, document, implement, and continually improve their environmental management system and show how they meet all the requirements of this standard. The organization defines the scope of the EMS, i.e. the boundaries of the organization to which the EMS applies.

ISO 14001 Requirement: 4.2 Environmental Policy

The organization must have a policy, or commitment statement, developed by top management relative to the scope of the EMS that conforms to the standard. This is generally a short statement that drives the remainder of the EMS. There are specific items that must be committed to in the policy, such as compliance with legal and other requirements, prevention of pollution, and continual improvement. In addition, the policy must be communicated to all employees, and others working on behalf of the organization, and be available to the public. The policy provides a framework for reviewing objectives and targets and be appropriate to the nature and scale of the entity included in the scope. This policy must be documented, implemented, and maintained. This means that it is kept current through the EMS review and continual improvement process, and is implemented through the remainder of the EMS elements.

ISO 14001 Requirement: Planning- 4.3.1 Environmental Aspects

This element requires a procedure to identify environmental aspects and related impacts that the organization can control or have influence over, and determine those which are significant to the organization. ISO 14001 does not prescribe what aspects should be significant, or even how to determine significance. However, it is expected that a consistent and verifiable process is used to determine significance. Aspects are defined as how an organization's activities products and/or services interact with the environment. An impact is how an aspect changes the environment. The intent of this element is to help the organization identify how it affects the environment, prioritize aspects, and use the EMS to manage, control, and improve upon the aspects. So the organization must ensure that the significant aspects are taken into account in the EMS. In order to ensure that the system is continually improving and current, this information must be kept up to date.

ISO 14001 Requirement: 4.3.2 Legal and Other Requirements

This is a requirement for a procedure that explains how the organization obtains information regarding its legal and other requirements, and makes that information known to key functions within the organization. The intent of this element is to identify the environmental legal and other requirements that pertain to its operations and activities so that the organization can ensure that they are taken into account in the EMS. In doing so, the organization must also determine how these requirements apply to the significant aspects.

ISO 14001 Requirement: 4.3.3 Objectives, Targets, and Programs

There is no requirement for a procedure in this element. However, there must be some process that ensures that the objectives and targets are consistent with the policy, which includes the commitments to compliance with legal and other requirements, continual improvement, and prevention of pollution. Also, the organization must take into consideration significant aspects, legal and other requirements, views of interested parties, and technological, financial, and business issues when deciding what it wishes to accomplish as an objective. The objectives and targets need to exist at whatever functions and levels of the organization, and be measurable, where practicable. Management programs (MPs) are the detailed plans and programs explaining how the objectives and targets will be accomplished. These MPs usually note responsible personnel, milestones and dates, and measurements of success. Noting monitoring and measurement parameters directly in the MP facilitates conforming to 4.5.1 on Monitoring and Measurement discussed below. MP's are required for the objectives and targets in an EMS.

ISO 14001 Requirement: 4.4.1 Structure and Responsibility

ISO 14001 requires that the relevant management and accountability structure be defined in this element. Top management is expected to ensure that resources are available so that the EMS can be implemented, maintained, and improved. These resources include human resources, organizational structure, financial and technological resources, and others as needed. Roles, responsibilities, and authorities must be defined, documented and communicated as appropriate. The organization must denote the Management Representative who is responsible to oversee the EMS and report to management on its operation. This person(s) ensures that the EMS is established, implemented and maintained consistent with ISO 14001, and also reports to top management on the performance of the system including recommendations for improvement.

ISO 14001 Requirement: 4.4.2 Competence, Training, and Awareness

The key point in this element is to ensure that persons performing tasks that have or can have significant impact on the environment and/or relate to the legal and other requirements are competent to do those tasks. Competence is ensured through appropriate education, training, and/or experience. The organization needs to identify training needs as they relate to the EMS, the significant aspects, and the legal and other requirements and make sure this training is provided (records of such are to be maintained). A procedure is needed that makes sure such persons are: aware of the need to conform with all EMS procedures and requirements and what they specifically need to do to do so; the significant aspects and the legal and other requirements associated with their respective responsibilities and why improved performance is beneficial; and the consequences of not following these procedures and requirements. In addition to job-specific knowledge, it expected that all personnel within the EMS (including contractors) have general awareness on items such as the policy and emergency response.

ISO 14001 Requirement: 4.4.3

Communications Procedures are required for both internal and external communications. Note that ISO 14001 only requires procedures, and allows the organization to decide for itself the degree of openness and disclosure of information. Whatever the decision is in terms of disclosure, the decision process must be recorded. There is a specific requirement that the organization consider external communications about its significant environmental aspects and record its decision. For internal communications, the procedure needs to describe how it is done among the levels of the organization. For external communications, it has to describe how external communications are received, documented, and a response provided.

ISO 14001 Requirement: 4.4.4 EMS Documentation

This requirement ensures that the organization has documented the system in either electronic or paper form such that it addresses the elements of the standard, describes how the organization conforms to each element, and provides direction to related documentation. Not all ISO 14001-required procedures need to be documented, as long as the system requirements can be verified. However, documentation must be provided such that enough is available to ensure the effective planning, operation, and control of processes related to the significant aspects, and to demonstrate conformance to ISO 14001. Such documentation at a minimum includes policy, objectives and targets, a definition of the scope of the EMS, and other main elements.

ISO 14001 Requirement: 4.4.5 Control of Documents

The organization is required to control documents, such as system procedures and work instructions, to ensure that current versions are distributed and obsolete versions are removed from the system. There is a requirement for a document control procedure that ensures documents are approved prior to use, are reviewed and updated as necessary, changes to versions are identified, that the current versions are available at points of use, that they are legible, identifiable, and that obsolete ones are so noted to avoid unintended use. It is acceptable to use documents of internal origin in the EMS, but those must be identified as being essential to the EMS and their distribution controlled.

ISO 14001 Requirement: 4.4.6 Operational Control

For this element, critical functions related to the policy, significant aspects, the legal and other requirements, and objectives and targets are identified and procedures and work instructions are required to ensure proper execution of activities. Requirements for communicating applicable system requirements to contractors also need to be addressed in these procedures. The required procedures need to provide instruction such that the organization conforms to the policy, objectives and targets, the legal and other requirements, and addresses any impacts from significant aspects. Which procedures are needed can be determined by review of the significant aspects, objects and targets, the legal and other requirements, and policy and then deciding what must be proceduralized and documented to ensure that deviations from planned arrangements do not occur. In regard to the contractors, the organization will need to establish procedures related to the significant aspects the legal and other requirements, of the goods and services it uses, and communicating the relevant elements of those procedures to the suppliers and contractors.

ISO 14001 Requirement: 4.4.7 Emergency Preparedness and Response

Although typically addressed through conventional emergency response plans, this element also requires that a process exist for actually identifying the potential emergencies, in addition to planning and mitigating them. Emergency incidents include those that may not be regulated, but may still cause significant impact as defined by the organization.

As part of continual improvement, it is required that the organization not only responds to emergency situations, but also reviews the emergency procedures and make improvements as necessary. This may involve periodic testing of emergency procedures, if practicable.

ISO 14001 Requirement: 4.5.1 Monitoring and Measurement

In order to properly manage the system, measurements must be taken of its performance to provide data for action. Procedures are required describing how the organization will monitor and measure key parameters of operations. These parameters relate to the operations that can have significant impacts, to monitor performance towards the objectives and targets, and to monitor conformance to the legal and other requirements and other EMS requirements. Equipment related to environmental

measurements, such as temperature and pH meters and pressure gauges, must be calibrated according to procedures, and records maintained.

ISO 14001 Requirement: 4.5.2 Evaluation of Compliance

The first part of this element (4.5.2.1) requires the organization to have a procedure(s) to periodically evaluate its compliance with applicable legal requirements as defined in 4.3.2. The organization will need to keep records of these periodic evaluations. ISO 14001 in 4.5.2.2 also requires a similar evaluation for compliance with other requirements. Again these are defined in 4.3.2 and the procedure can be the same as, and even part of, 4.5.2.1.

ISO 14001 Requirement: 4.5.3 Non-conformances, Corrective and Preventive Action

This element requires procedures for acting on non-conformances identified in the system, including corrective and preventive action. A non-conformance is a situation where the actual condition is not in accordance with planned conditions. Someone not following a procedure, a regulatory non-compliance, or an incident, is all examples of possible systemic non-conformances. Non-conformances may be identified through audits, monitoring and measurement, and communications. The intent is to correct the system flaws by addressing root causes, rather than just fixing the immediate incident only. The standard also requires that trends in corrective actions be evaluated to see if deeper-rooted preventive actions can also be implemented. The procedure needs to make sure the non-conformances are not only first addressed to mitigate environmental impact; but that further investigation occurs to determine their cause, and action taken to avoid it happening again. Preventive actions would then be those actions resulting from an evaluation as to why nonconformities are occurring and taking action to prevent their recurrence. The standard states that the corrective action is appropriate to the magnitude of the problem and the impacts encountered; to avoid either over-compensating or under-compensating for a problem. The organization must record the results of corrective actions taken, and must also review the effectiveness of actions taken

ISO 14001 Requirement: 4.5.4 Control of Records

Records are expected to exist to serve as verification of the system operating and the organization's conformance to the standard and its own EMS requirements. Procedures in this element are required for the maintenance of records, and specifically require that records are identifiable, retrievable, safely stored, and legible, retained as appropriate, and traceable.

ISO 14001 Requirement: 4.5.5 Internal Audit

ISO 14001 requires that the system provide for internal audits. This procedure could include methodologies, schedules, checklists and forms, and processes used to conduct the audits. The purpose of this audit is to determine whether the system conforms to the requirements of ISO 14001 and the organization's own EMS detailed requirements, and if the EMS has been properly implemented and maintained. The procedure for internal audits has to address responsibilities and requirements for planning and executing the audits, reporting results, and what records will be generated (and maintained in accordance with 4.5.4). The procedures also address determination of audit scope, how often they will be conducted, and specifically how they will be done. Auditors need to be selected such that it ensures objectivity and impartiality of the audit process.

ISO 14001 Requirement: 4.6 Management Review

This element requires that periodically, top management will review the EMS to ensure it is operating as planned, and is suitable, adequate, and effective. The organization needs to ensure that in the review: results of internal audits (EMS and compliance); external communications; environmental performance; status on objectives and targets; status of corrective and preventive actions; follow up on

actions from prior management reviews; and changing conditions or situations; and recommendations for improvement are all discussed.

Results and records of management review include: agendas, attendance records, minutes, and documented agreed upon action items.

Appendix C: GRI Reporting Guidelines Tests

All information in Appendix C is copied directly from the Global Reporting Initiative Reporting Guidelines Version 3.0. (Global Reporting Initiative, 2006)

Materiality

(Global Reporting Initiative, 2006, p. 9)

External Factors

- In defining material topics, take into account external factors, including:
- Main sustainability interests/topics and Indicators raised by stakeholders.
- The main topics and future challenges for the sector reported by peers and competitors.
- Relevant laws, regulations, international agreements, or voluntary agreements with strategic significance to the organization and its stakeholders.
- Reasonably estimable sustainability impacts, risks, or opportunities (e.g., global warming, HIV-AIDS, poverty) identified through sound investigation by people with recognized expertise, or by expert bodies with recognized credentials in the field.

Internal Factors

In defining material topics, take into account internal factors, including:

- Key organizational values, policies, strategies, operational management systems, goals, and targets.
- The interests/expectations of stakeholders specifically invested in the success of the organization (e.g., employees, shareholders, and suppliers).
- Significant risks to the organization.
- Critical factors for enabling organizational success.
- The core competencies of the organization and the manner in which they can or could contribute to sustainable development.

Prioritizing

- The report prioritizes material topics and Indicators.

Stakeholder inclusiveness

(Global Reporting Initiative, 2006, p. 11)

- The organization can describe the stakeholders to whom it considers itself accountable.
- The report content draws upon the outcomes of stakeholder engagement processes used by the organization in its ongoing activities, and as required by the legal and institutional framework in which it operates.
- The report content draws upon the outcomes of any stakeholder engagement processes undertaken specifically for the report.
- The stakeholder engagement processes that inform decisions about the report are consistent with the scope and boundary of the report.

Sustainability Context

(Global Reporting Initiative, 2006, p. 12)

- The organization presents its understanding of sustainable development and draws on objective and available information as well as measures of sustainable development for the topics covered in the report.
- The organization presents its performance with reference to broader sustainable development conditions and goals, as reflected in recognized sectoral, local, regional, and/or global publications.
- The organization presents its performance in a manner that attempts to communicate the magnitude of its impact and contribution in appropriate geographical contexts.
- The report describes how sustainability topics relate to long-term organizational strategy, risks, and opportunities, including supply-chain topics.

Completeness

(Global Reporting Initiative, 2006, p. 13)

- The report was developed taking into account the entire chain of entities upstream and downstream, and covers and prioritizes all information that should reasonably be considered material on the basis of the principles of materiality, sustainability context, and stakeholder inclusiveness.
- The report includes all entities that meet the criteria of being subject to control or significant influence of the reporting organization unless otherwise declared.
- The information in the report includes all significant actions or events in the reporting period, and reasonable estimates of significant future impacts of past events when those impacts are reasonably foreseeable and may become unavoidable or irreversible.
- The report does not omit relevant information that would influence or inform stakeholder assessments or decisions, or that would reflect significant economic, environmental, and social impacts.

Balance

(Global Reporting Initiative, 2006, p. 13)

- The report discloses both favorable and unfavorable results and topics.
- The information in the report is presented in a format that allows users to see positive and negative trends in performance on a year-to-year basis.
- The emphasis on the various topics in the report is proportionate to their relative materiality.

Comparability

(Global Reporting Initiative, 2006, pp. 14-15)

- The report and the information contained within it can be compared on a year-to-year basis.
- The organization's performance can be compared with appropriate benchmarks.
- Any significant variation between reporting periods in the boundary, scope, length of reporting period, or information covered in the report can be identified and explained.
- Where they are available, the report utilizes generally accepted protocols for compiling, measuring, and presenting information, including the GRI Technical Protocols for Indicators contained in the Guidelines.
- The report uses GRI Sector Supplements, where available.

Accuracy

(Global Reporting Initiative, 2006, p. 15)

- The report indicates the data that has been measured.
- The data measurement techniques and bases for calculations are adequately described, and can be replicated with similar results.
- The margin of error for quantitative data is not sufficient to substantially influence the ability of stakeholders to reach appropriate and informed conclusions on performance.
- The report indicates which data has been estimated and the underlying assumptions and techniques used to produce the estimates, or where that information can be found.
- The qualitative statements in the report are valid on the basis of other reported information and other available evidence.

Timeliness

(Global Reporting Initiative, 2006, p. 16)

- Information in the report has been disclosed while it is recent relative to the reporting period.
- The collection and publication of key performance information is aligned with the sustainability reporting schedule.
- The information in the report (including webbased reports) clearly indicates the time period to which it relates, when it will be updated, and when the last updates were made.

Clarity

(Global Reporting Initiative, 2006, p. 16)

- The report contains the level of information required by stakeholders, but avoids excessive and unnecessary detail.
- Stakeholders can find the specific information they want without unreasonable effort through tables of contents, maps, links, or other aids.
- The report avoids technical terms, acronyms, jargon, or other content likely to be unfamiliar to stakeholders, and should include explanations (where necessary) in the relevant section or in a glossary.
- The data and information in the report is available to stakeholders, including those with particular accessibility needs (e.g., differing abilities, language, or technology).

Reliability

(Global Reporting Initiative, 2006, p. 17)

- The scope and extent of external assurance is identified.
- The original source of the information in the report can be identified by the organization.
- Reliable evidence to support assumptions or complex calculations can be identified by the organization.
- Representation is available from the original data or information owners, attesting to its accuracy within acceptable margins of error.

Appendix D: GRI Reporting Guidelines Performance Indicators

All information in Appendix D is copied directly from the Global Reporting Initiative Reporting Guidelines Version 3.0 with the modification that after each indicator it is stated whether this particular indicator is a core or additional indicator (Global Reporting Initiative, 2006).

Economic Performance Indicators

Economic Performance

1. Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments. (Core)

2. Financial implications and other risks and opportunities for the organization's activities due to climate change. (Core)

3. Coverage of the organization's defined benefit plan obligations. (Core)

4. Significant financial assistance received from government. (Core)

Market Presence

5. Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation. (Additional)

6. Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation. (Core)

7. Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation. (Core)

Indirect Economic Impacts

8. Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement. (Core)

9. Understanding and describing significant indirect economic impacts, including the extent of impacts. (Additional)

Environmental Performance Indicators

Materials

1. Materials used by weight or volume. (Core)

2. Percentage of materials used that are recycled input materials. (Core)

Energy

3. Direct energy consumption by primary energy source. (Core)

4. Indirect energy consumption by primary source. (Core)

5. Energy saved due to conservation and efficiency improvements. (Additional)

6. Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives. (Additional)

7. Initiatives to reduce indirect energy consumption and reductions achieved. (Additional)

Water

8. Total water withdrawal by source. (Core)

9. Water sources significantly affected by withdrawal of water. (Additional)

10. Percentage and total volume of water recycled and reused. (Additional)

Biodiversity

11. Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas. (Core)

12. Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas. (Core)

13. Habitats protected or restored. (Additional)

14. Strategies, current actions, and future plans for managing impacts on biodiversity. (Additional)

15. Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk. (Additional)

Emissions, Effluents, and Waste

16. Total direct and indirect greenhouse gas emissions by weight. (Core)

17. Other relevant indirect greenhouse gas emissions by weight. (Core)

18. Initiatives to reduce greenhouse gas emissions and reductions achieved. (Additional)

19. Emissions of ozone-depleting substances by weight. (Core)

20. NO, SO, and other significant air emissions by type and weight. (Core)

21. Total water discharge by quality and destination. (Core)

22. Total weight of waste by type and disposal method. (Core)

23. Total number and volume of significant spills. (Core)

24. Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally. (Additional)

25. Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff. (Additional)

Products and Services

26. Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation. (Core)

27. Percentage of products sold and their packaging materials that are reclaimed by category. (Core)

Compliance

28. Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations. (Core)

Transport

29. Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce. (Additional)

Overall

30. Total environmental protection expenditures and investments by type. (Additional)

Social Performance Indicators

The following performance indicators are all different types of social performance indicators divided into different categories

Labor Practices and Decent Work Performance Indicators

Employment

1. Total workforce by employment type, employment contract, and region. (Core)

2. Total number and rate of employee turnover by age group, gender, and region. (Core)

3. Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations. (Additional)

Labor/Management Relations

4. Percentage of employees covered by collective bargaining agreements. (Core)

5. Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements. (Core)

Occupational Health and Safety

6. Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs. (Additional)

7. Rates of injury, occupational diseases, lost days, and absenteeism, and number of workrelated fatalities by region. (Core)

8. Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases. (Core)

9. Health and safety topics covered in formal agreements with trade unions. (Additional)

Training and Education

10. Average hours of training per year per employee by employee category. (Core)

11. Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings. (Core)

12. Percentage of employees receiving regular performance and career development reviews. (Additional)

Diversity and Equal Opportunity

13. Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity. (Core)

14. Ratio of basic salary of men to women by employee category. (Core)

Human Rights Performance Indicators

Investment and Procurement Practices

1. Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening. (Core)

2. Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken. (Core)

3. Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained. (Additional)

Non-discrimination

4. Total number of incidents of discrimination and actions taken. (Core)

Freedom of Association and Collective Bargaining

5. Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights. (Core)

Child Labor

6. Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor. (Core)

Forced and Compulsory Labor

7. Operations identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of forced or compulsory labor. (Core)

Security Practices

8. Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations. (Additional)

Indigenous Rights

9. Total number of incidents of violations involving rights of indigenous people and actions taken. (Additional)

Society Performance Indicators

Community

1. Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting. (Core)

Corruption

2. Percentage and total number of business units analyzed for risks related to corruption. (Core)

3. Percentage of employees trained in organization's anti-corruption policies and procedures. (Core)

4. Actions taken in response to incidents of corruption. (Core)

Public Policy

5. Public policy positions and participation in public policy development and lobbying. (Core)

6. Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country. (Additional)

Anti-Competitive Behavior

7. Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes. (Additional)

Compliance

8. Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations. (Core)

Product Responsibility Performance Indicators

Customer Health and Safety

1. Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures. (Core)

2. Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes. (Additional)

Product and Service Labeling

3. Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements. (Core)

4. Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes. (Additional)

5. Practices related to customer satisfaction, including results of surveys measuring customer satisfaction. (Additional)

Marketing Communications

6. Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship. (Core)

7. Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes. (Additional)

Customer Privacy

8. Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data. (Additional)

Compliance

9. Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services. (Core)

Appendix E: Interview questions Ellen Lagrell

1. Do the students of GU know that the university presents a sustainability report?
    a) If so, how do they feel about it?
2. How do you believe students and future students would think if Chalmers presented a sustainability report?
    b) How does a sustainability report affect the decision process for prospective students?
    c) Do prospective students care if a university presents a sustainability report or not?
3. From your work with the evaluation of the "environmental labeling" of the courses at GU, can you tell us something about the student´s attitudes to these labels?
4. How, in general, are the attitudes of students to sustainable development?

Appendix F: Interview questions Ulf Andersson and Jonna Bjuhr Männer

Planning and strategy

1. Has GU presented an environmental report before?
    a) If yes, what is the biggest difference between the environmental and the sustainability report?
2. How did you reason before deciding to produce a sustainability report (rationale, motive etc.)?
3. What target group did you envision for the report?
    a) How did you reason when making this decision? What components did you believe were the most important for this group?
    b) What contact did you have with the target group before producing the report?
    c) What implications did it have for the structure of the report?
4. How is the sustainability report connected to the ISO 14001 and EMAS certifications?

Implementation

5. How did you decide on the content of the report in terms of aspects to present, structure, goals, design, etc?
6. Did you make any changes to the original plan while working?
7. How is information collected to the report? What routines do you have for this?
    a) Information systems
    b) Environmental management systems

Future

8. What changes do you plan to make for future reports?
9. What aspects of the sustainability report are you extra proud of?
10. How do you believe the concept of sustainability reports will develop for universities in Sweden?
    a) Do you think other universities will benchmark GU and produce their own sustainability report?

Appendix G: Interview questions Johan Carlsten

Today

1. How do you work with industry contacts today? Approaching activities or mostly responding to demands?
2. Chalmers has produced various documents and brochures on the activities related to sustainable development (visions, strategy etc.), how do you use this material?
3. How do you use annual reports and similar documents?
4. What information are companies most interested in?
    a) Do information demands differ?

Future

5. What information material do you miss in today's range of brochures and documents?
6. How would you use a sustainability report if Chalmers produced one?
    a) How do you estimate the demand for such a report?
7. What information/components would you like to see in a sustainability report?
    a) How should it be designed?

Appendix H: Interview questions Petra Ljung and Jonas Pettersson

Today

1. How does the Communications and Marketing office work today? Approaching activities or mostly answering/responding to questions?
2. Chalmers has produced various documents and brochures on the activities related to sustainable development (visions, strategy etc.), how is this used in your department?
3. How are annual reports and similar documents used in the the Communications and Marketing office?
4. What groups are most interested in information about Chalmers?
    a) What information are they interested in?
    b) Do information demands differ?

Future

5. What information material do you miss in today's range of brochures and documents?
6. How would the Communications and Marketing office use a sustainability report if Chalmers produced one?
    a) How do you estimate the demand for such a report?
7. What information/components would your department like to see in a sustainability report?
    a) How should it be designed?