

THE LEGISLATION OF ENVIRONMENTAL DISCLOSURES IN THREE NORDIC COUNTRIES – A COMPARISON



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This paper compares the legislation in Denmark, Norway and Sweden concerning what kind of environmental information firms must disclose. These three Nordic countries have great similarities regarding accounting legislation and standards. However, Denmark has chosen a different way to force firms to disclose their environmental performance compared with Norway and Sweden. Danish firms must deliver separate 'green accounts', while Norwegian and Swedish firms are bound to report on environmental issues in the administrative report. The Norwegian and Swedish firms' information mainly addresses the financial consequences of environmental impact and the Norwegian legislation is also found to be more extensive than the Swedish legislation. The information from the Danish firms addresses society in general. The comparison indicates some interesting topics for further analysis, e.g. how the

extensive demands in Norway for information about products' impacts when discharged may be fulfilled. As a background for this comparison, an outline of the discussions about voluntary versus regulated environmental information is given as well as an overview of some international standards and recommendations concerning firms' environmental disclosures. Copyright © 2003 John Wiley & Sons, Ltd and ERP Environment.

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INTRODUCTION

The purpose of this paper is to compare the national legislation in Denmark, Norway and Sweden concerning the statutory requirements for companies' environmental information. These three countries have great similarities regarding how legislation is implemented and they collaborate in, for instance, environmental policy issues (e.g. the Green Swan, a Nordic eco-label introduced by the Nordic Council of Ministers). Denmark

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as early as 1995 introduced national legislation in order to improve the public's possibilities of access to information about companies' environmental impacts. Norway and Sweden a few years later also introduced legislations demanding companies inform about their activities' environmental impact. Despite the great similarities between these three countries in social structure and the collaboration on many issues, Norway and Sweden have chosen a different way compared with Denmark to force companies to inform about environmental impacts. The information also addresses different target groups.

A study of corporate social disclosures reported by Adams *et al.* (1998) found a significant difference among both the types and the amounts of information between countries that could not be explained simply by company size or industry type. The authors claim that the social and political environment in different countries may be an influential factor when companies decide to report on social issues (see also Kolk *et al.*, 2001). These conclusions are interesting to have in mind when the three Nordic countries are compared. They have chosen different ways to fulfil the aim of disclosing environmental information, even though the basis for the environmental policy is similar. The paper discusses *inter alia* whether the differences in environmental reporting are a result of differences in environmental goals or whether there are different ways to achieve similar results.

According to Azzone *et al.* (1997), there are four important criteria a report must fulfil: reliability, comparability, relevance and comprehensibility. Reliability has to do with the company's ability to justify and substantiate its claims—independent verification is important here. Comparability makes it possible to analyze information in relation to other companies as well as between years. Relevant and comprehensive information relates to cost effectiveness and the identification of target group. These four criteria are discussed in the comparison.

The paper is organized as follows. The next section provides an overview on voluntary disclosures versus regulated environmental information, followed by a literature review of environmental reporting standards. The following section describes the International Accounting Standards Committee, the European Union, the Securities and Exchange Commission and the Financial Accounting Standard Board environmental standards and recommendations. Descriptions and comparisons are then given on companies' statutory environmental information in Denmark, Norway and Sweden. The paper ends with conclusions.

VOLUNTARY VERSUS REGULATED DISCLOSURES

There are different ways for society to force businesses to act in a more environmentally friendly way. Governments use various fiscal instruments to control environmental pollution such as environmental taxes, emission limits, subsidies and charges.

In order to be able to measure and assess environmental impacts from industrial activities, stakeholders need information. Firms have responded differently to demands concerning disclosures of environmental information. Some firms provide extensive environmental information in their annual reports while other firms produce separate environmental reports. Others are less informative and restrict their information to short statements in the descriptive part of the annual report. Furthermore, small firms disclose limited (or no) environmental information (Adams *et al.*, 1998). Studies have noticed that firms working in environmentally hazardous areas are more willing to disclose environmental information than others (Gamble *et al.*, 1995; Deegan and Gordon, 1996; Halme and Huse, 1997; Adams *et al.*, 1998). The way environmental information is presented and the amount of information seems therefore to be specific to firm size and business type.



There is a current discussion in the literature about voluntary disclosures versus regulating environmental information. Firms seem to advocate voluntarism, because environmental regulations may raise costs (Porter and van der Linde, 1995b). According to the stakeholder theory, the firm responds for ethical reasons to the interest groups' demands; thus firms are disclosing information as a response to stakeholders' demand, making regulation unnecessary (Donaldson and Preston, 1995; Maltby 1997). Other reasons for letting firms set standards for environmental information include that one report may not satisfy all stakeholders (Azzone *et al.*, 1997) and that the information may be too extensive to report compressed (Maltby, 1997). The legitimacy theory explains the willingness to disclose information by pointing out that firms want to legitimate their existence in society and demonstrate that society needs their services (Shocker and Sethi, 1974). Firms therefore take measures to ensure that their activities and performances are acceptable; one important step is to disclose environmental information in reports (Wilmshurst and Frost, 2000).

Those who advocate regulated environmental information claim that at least a minimum of information is ensured by these regulations (Maltby, 1997). Voluntary reports are also found to be incomplete and are not related to the firms' actual environmental performance (Wiseman, 1982; Fekrat *et al.*, 1996). Positive information seems to dominate the reports (Deegan and Rankin, 1996; Niskanen and Nieminen, 2001). The reports are also time and event specific. Firms may disclose information in their own self-interest but seldom when it can affect future earnings and potential cash flows negatively (Walden and Schwartz, 1997).

A basic tenet of regulation is, of course, to limit environmental impact. There is, however, no consensus regarding how regulations affect business. Those who argue against regulations claim that firms in countries with regulations face considerable costs and therefore diminished competitiveness (Jaffe *et al.*, 1995).

Others state that regulations stimulate the business to achieve higher efficiency, develop technological improvements and bring forth a higher corporate awareness (Porter and van der Linde, 1995a, 1995b). Elkington *et al.* (1998) state that 'markets work most efficiently and effectively when there is adequate information' and Tietenberg (1998) claims that 'disclosure strategies can ultimately motivate polluters to reduce emissions even in the absence of more traditional regulatory controls'.

Even though there are disagreements about the results and the effects of regulations some countries have instituted national legislation concerning companies' environmental information. There are special regulations in e.g. Australia, Canada, Denmark, the Netherlands, Norway, Spain, Sweden and the US. However, there are differences between countries regarding which companies are covered by the regulation, and what type of environmental information has to be disclosed, as well as the purpose of the regulation. This state of affairs may be due to different environmental policies in the countries but also possibly opposition from affected parties, and country-specific legislation traditions.

PREVIOUS STUDIES

Surveys of international environmental accounting standards and national environmental accounting legislation are rare. An early survey of environmental reporting regulation and standards was performed by the United Nations Centre for Transnational Corporations International Standards of Accounting and Reporting (UN CTC ISAR) in 1990, in which it is pointed out that, at that time, no standards that specifically deal with environmental issues existed (UN CTC ISAR, 1990, 1991). A few years later, Gray *et al.* (1993, pp. 204–205) reported on environmental disclosure requirements in Canada, Germany, Norway and the USA. Those requirements were not extensive and the authors claimed that 'the institutional



framework for environmental reporting is virtually non-existent' (Gray *et al.*, 1993, p. 205). In 1995 the *Fédérations des Experts Comptables Européens* (FEE) surveyed environmental accounting standards in 19 European countries (FEE, 1995). The FEE found that at that time no accounting or standard setting bodies in those countries were involved in setting standards for environmental reporting. In 1996, the United Nations Conference on Trade and Development (UNCTAD) performed a review of accounting and reporting issues where environmental accounting was one part (UNCTAD, 1996a). The review stated that even if there is a development of international environmental reporting frameworks, there were nearly no national disclosure requirements, with the exception of Denmark.

Even if there are few international standards and little national legislation on environmental reporting disclosures, many industry associations are dealing with the matter and aim to set guidelines for their members. As a consequence, associations such as The International Network for Environmental Management (INEM) and the International Chamber of Commerce (ICC) are discussion partners when environmental management issues are debated within e.g. the United Nations Environmental National Programme (UNEP)¹ Even though industry associations may have a great influence on how their members act, their guidelines are voluntary.

There are also organizations not connected to any special category of industry that develop guidelines for reporting on environmental or social performance. One such organization is the Global Reporting Initiative (GRI), whose guidelines are used by several multinational companies². The industry associations and other organizations that develop guidelines have, of course, an indirect influence on international and national accounting standards.

However, it lies outside the purpose of this paper to analyze their work.

ACCOUNTING STANDARD BODIES

Countries have organizations that together with the country's legislative bodies develop norms and regulations for the national accounting system. The legislation and the recommendations from the national accounting organizations are often based upon internationally established norms. Growing international trade makes it necessary to make companies' reports standardized regarding their financial situations. International bodies that have influence on environmental accounting standards include the IASC and the EU. Since the USA has a significant influence on international trade through their multinational firms, and because many foreign companies are traded at the New York Stock Exchange, the accounting principles effective in the USA also influence companies outside the USA. The Financial Accounting Standards Board (FASB) and the Securities and Exchange Commission (SEC) in the USA are therefore discussed in this section.

The International Accounting Standard Committee

One of the most influential international standard setting bodies is the International Accounting Standard Committee, IASC. This organization has 153 accounting bodies, in 112 countries, as members. IASC's object is to harmonize accounting standards and also to develop and approve new standards.

There are no IASC standards that deal exclusively with environmental issues in annual reports. The opening standard, IAS 1, which defines the overall considerations for financial statements, points out that all financial risks must be disclosed (IASC, 2001). Environmental risks are no exception and shall be handled in the same way as all other revenues, costs,

¹ See UNCTAD (1996b) for a survey of guidelines set by industry associations.

² See <http://www.globalreporting.org>



assets and liabilities. In IAS 1, p. 9, environmental reports are briefly discussed and the standard states that environmental reports are often produced, outside financial statements, by industries where environmental impacts are significant. The standard declares that 'Enterprises are encouraged to present such additional statements if management believes they will assist users in making economic decisions' (IASC, 2001).

The standard IAS 37 considers provision, contingent liabilities and contingent assets. This standard is intended for all provision, contingent liabilities and contingent assets issues and is therefore also applicable on environmental issues. IAS 37, acting from July 1999, contains definitions, as well as how and when the recognition shall be achieved, how the obligation should be estimated and what information the enterprise might disclose. The standard also contains some examples of how issues that are related to the environment may be treated in financial accounts (IASC, 2001).

The standards IAS 36 on impairment of assets and IAS 38 on intangible assets are also of relevance for environmental issues but these issues have not been highlighted in these standards.

It is notable that the European Commission, in a writ to the European Council and to the European Parliament, recommends that all listed companies in the European Union prepare their accounts in accordance with the IAS standards at the latest from 2005 (European Commission, 2000a). The IASC's standards will hereby be a base for all national accounting standards in countries that are members of the EU.

The European Union

The European Union, EU, has in its fourth and seventh Council Directives (78/660/EEC; 83/349/EEC) put forward standards that are, or are going to be, implemented in the member states' national accounting standards. The fourth directive states how the annual report

should be conducted and the seventh directive states how the accounts for consolidated companies should be treated. These directives are fully effective for companies with a balance sheet total of more than 3 125 000 euro and/or a net turnover of more than 6 250 000 euro and/or with on average more than 50 employees. None of these directives particularly discuss environmental issues, but the European Commission has in an interpretative communication clarified how some environmental issues may be included in financial statements (European Commission, 1997).

Furthermore, the European Commission has in a recently published recommendation (European Commission, 2001) discussed how environmental issues shall be recognized, measured and disclosed in companies' annual accounts and annual reports. The recommendation defines concepts and proposes how environmental liabilities and environmental expenditures shall be reported and measured and how and when environmental disclosures shall be made. This recommendation aims to present guidance on the application of the provision of the fourth and seventh directives with respect to environmental issues. The Commission recommends all member states to ensure that all companies covered by the fourth and seventh directives apply these recommendations within 12 months of adoption. Since this recommendation is new, no country has implemented it in its national legislation and therefore there is no experience of how the recommendation influences companies' annual reports. It is important to note that the Commission wants to maintain consistency between the EU financial reporting framework and international accounting standards developed by the IASC³. However, this European Commission recommendation demands much more extensive and detailed environmental information in the annual reports than any other standard.

³ See European Commission (1996) for a comparison between the EU accounting directives and standards set by the IASC.



The Securities and Exchange Commission and the Financial Accounting Standard Board

The Securities and Exchange Commission, SEC, has the legal authority to establish accounting and reporting standards in the USA. The SEC has in reality delegated this work to the Financial Accounting Standard Board, FASB⁴. This organization has therefore the responsibility for developing financial reporting standards, the Generally Accepted Accounting Principles, US GAAP. Because of the great impact the USA has on the world economy and its many multinational companies, and since companies traded on the New York Stock Exchange have to report according to the US GAAP, the standards set by the SEC and the FASB are of significance for other countries⁵.

Companies with securities registered on a national securities exchange and companies with securities held by more than 500 persons together with a total asset of more than \$10 million must register the securities under the 1934 Act. They are then required to file annual and periodic reports with the SEC and to follow the disclosure requirements set by the SEC.

The companies that file reports with the SEC have to prepare their annual file according to Form 10-K and its requirements. Environmental disclosures in Form 10-K are required according to items 101 and 103 (regulations S-K §220.101 and S-K §229.103). In the administration report a discussion shall be made of the impact the environmental regulations have on companies' capital expenditures, earnings and competitive position. Further, companies have to disclose, if it is material, whether the federal, state or local provisions have taken administrative or juridical proceedings against the company for violation of regulatory statutes.

⁴ See <http://www.sec.gov> and <http://raw.rutgers.edu/raw/fasb>

⁵ However, a survey made by the KPMG in 1999 found that among 122 European companies 25% were considering a change in their basis of preparing their financial statements. A majority of these would consider adopting the IAS and 29% the US GAAP (KPMG, 2000).

The FASB has no special standards that exclusively deal with environmental issues and has not incorporated any environmental reporting requirements into the US GAAP. In 1993 a report on 'Accounting for environmental liabilities' was presented by the Emerging Issues Task Force, EITF (FASB 1999). This draft, which analyzed when it is appropriate to include recoveries and whether an environmental liability could be discounted, did not lead to any new statement regarding environmental disclosures (Hutchinson, 2000). The overall statement that requires companies to disclose all information about the company that is of significance for stakeholders is applicable on environmental issues. Furthermore, the statement FAS No. 5, 'Accounting for contingencies' (FASB 2000/2001), is also relevant for environmental issues. FAS No. 5 requires that provision for a loss contingency be accrued and a liability recognized in the financial statements if it is probable that an asset has been impaired or a liability has been incurred and the amount of loss can be reasonably estimated. The most common application of FAS No. 5 on environmental issues is for companies to disclose their status as a Potentially Responsible Party in connection with clean-up costs under the Superfund Act (Comprehensive Environmental Response, Compensation, and Liability Act, CERCLA) (Luft Mobus, 2000).

NATIONAL LEGISLATION

Denmark and Norway during the 1990s introduced legislation concerning how firms have to disclose their environmental performances. The legislators in those countries have chosen different ways to fulfil the task of standardizing the information firms must give to different interest groups. These standards are here compared with Swedish standards, acting from 1 January 1999. Denmark, Norway and Sweden are chosen because of the similarities in accounting legislation. It is important to bear in mind that the Accounting Acts in



these three countries prescribe that all information of importance for evaluating the company must be disclosed. The additional environmental information prescribed by law in these countries may be an expression of the governments' ambition to more explicitly focus on environmental issues: this in a time when e.g. an EU directive proposes an extensive right for the general public to obtain information from authorities about environmental issues (European Commission, 2000b).

Denmark

In the middle of 1995 the Danish Parliament, *Folketinget*, adopted an addition to the Environmental Protection Act (EPA), *Miljøbeskyttelsesloven* 5 kap §35a⁶. This new Green Accounts Act requires that industries must have a license to operate according to the EPA, to prepare an annual green account. There are about 7000 Danish companies that must have environmental approval by local or regional authorities before they can operate or expand (Rikhardsson, 1999, p. 346). The Green Accounts Act applies to certain firms, working in environmentally intensive industry categories, listed in the act. Every site listed in the act with more than 20 employees must prepare an account and send it to the Danish Commerce and Company Agency (CCA) where it is held public. The agency also has the right to fine companies that do not report. The basic idea behind the act was to make sure that the public obtains information about how activities in heavily polluting industries influence the environment. Another important idea was to encourage the industry's manager and co-workers to make environmental improvements.

The firms have substantial freedom in deciding how to present environmental information

in the green accounts. However, the information must include the use of energy, water and raw material in the production process as well as the type and quantity of emission. These data are disclosed in absolute terms or, if that is too sensitive for the firm, as indices. The green accounts must also include a management statement about significant changes from previous years' green accounts, to what extent the staff has taken part in preparation of the accounts and why the information provided is significant. As in financial accounts, the firm has to also describe the firm in general, its future perceptions and objectives of environmental issues. The information shall be written in a way that can easily be understood by the public. A company that is certified according to the Eco-Management and Auditing Scheme (EMAS) may instead send the EMAS report to the Danish CCA.

At the beginning of 2000 nearly 1400 firms produced green accounts. Of these about 200 reported voluntarily (Danish EPA, 1999). In 1999, the Danish EPA made an investigation among 550 firms that submitted green accounts. The investigation found that five out of six accounts met the legally required information. Even if the firms had administrative cost for the production of the accounts, about half of the firms claimed that financial benefits were linked to the work with the accounts and that the benefits measured up to the costs. 40% of the firms said that they had achieved environmental improvements. The study also found that investors have begun to use the green accounts when evaluating firms. Only half of the investigated group 'neighbors and general consumers' know of the green accounts. The Danish law on green accounts does not include any directions about environmental information in monetary terms, nor is there any demand that the report must be audited. Nevertheless, 9% of the investigated firms had externally audited green reports (Danish EPA, 1999).

The Danish EPA is working on a revision of the Green Accounts Act. In the EPA's

⁶ All information about the Danish Environmental Protection Act, 'Miljøbeskyttelsen', and the evaluation on green reporting can be found at <http://www.mst.dk> and <http://www.danmark.dk>. See also Rikhardsson (1999).



discussion paper *Elements in Future Green Accounting* it is suggested that the green accounts shall be more closely linked to the environmental permit for the firm (Danish EPA, 2000). However, no proposal is made on reporting environmental issues in financial terms or as a part of the annual report.

Norway

The Norwegian Parliament *Stortinget* adopted, in July 1998, a new law concerning accounting⁷. Demands for environmental information were already in the previous Stock Act, *Asjeloven*, but became more comprehensive in the new Accounts Act, *Regnskapsloven*.

According to the Accounts Act, all firms have to disclose how the business affects the natural environment, if the impact is significant. The information shall be contained in the administration report even if firms have separate environmental reports or special environmental sections. The legislation is in force for all firms, small and large, that are included by the Accounts Act and the information shall deal with the entire product or service life cycle. The Norwegian Accounting Standards Board describes eight different conditions that are central for the external environment and therefore of importance to report on. For instance, the information shall contain the amount of energy and raw material used, the type and quantity of emission and waste, accidents, emissions during transportation and how the environment is affected when the products are used and discarded (NRS, 1999). Accounting Act §7–34 also states that firms in the petroleum business, energy production and mining operations shall in a note specify future expenditure for remediation and clearance work.

The purpose of the environmental information is, according to the governmental bill, that an environmental report may have a

positive effect on the company's environmental performance. The management's attention and responsibility may be strengthened and the environmental effects more discernible. This information may be of importance for shareholders, investors, lenders, employees, authorities and the public (Ot.prp. nr. 42, 1997/98).

Even though the administration report is an object for auditing, environmental information is not. According to the government bill Ot.prp. nr. 75 (1997/98) there is no need for external auditing.

In 2000, the business advisory firm Deloitte and Touche made an investigation of the environmental information in annual reports from 1999 (Deloitte and Touche, 2000a). The 55 largest companies investigated were working in business sectors where environmental effects are often significant, e.g. transportation and energy production sectors. The result indicates that information had improved in 65% of the annual reports. The changes are both in the amount of information and contents. Around 15% of the administrative reports are used for environmental information and half of the investigated firms refer to other sources for information.

Sweden

Sweden has had, since 1 January 1999, legislation concerning environmental information in the administration part of the annual report. This legislation is an addition to the Annual Accounts Act, *Årsredovisningslagen*. Generally, firms must report on issues that are of importance for the appraisal of the firms' status, result and future development. Firms, that have a license to operate or an obligation to report according to the Swedish Environmental Code, *Miljöbalken*, must also give information about the impact their business activities have on the natural environment. There are over 20 000 Swedish sites that have a license to operate or are obligated to report (Swedish EPA, 2001). These firms are also those that

⁷ See <http://www.grip.no/Miljorapportering/Regnskapsstandard.htm>



have financial risks linked to their activities' environmental impact. Financial institutions are also comprised in this new legislation.

The government bill to the legislation (Prop 1996/97:167) states that the basis for the new legislation is to improve financial information related to the firms' environmental impact. The overall statement that all information of importance must be reported is not all inclusive. It is therefore, according to the government bill, necessary to treat long-term risks such as environmental issues in a special way. The information about emission and waste may affect the assessment of the firm, i.e. whether or not it may be subjected to emission limits, clean-up costs or environmental investment demands.

The information contains only the impact production has on the environment and not the impact of the use and reuse of the products. It is claimed in the government bill that this limitation on the demand for information makes it fairly easy and inexpensive for the firm to fulfil the obligations.

Since the Annual Accounts Act is framework legislation, the Swedish Accounting Standards Board (BFN) has in a statement, BFN U 98:2, detailed specification on what environmental facts may be reported (BFN, 1998). First, the board points out that nearly all firms have to report according to the Annual Accounts Act if there are environmental issues of importance for the firms' present and future positions and results. Furthermore, firms that have a license to operate or an obligation to report according to the Swedish Environmental Code must report on environmental issues. The required information covers all activity held in Sweden and shall contain reports on what activities the license/obligations concern. The firms must also report on how dependent they are on the license/obligation. This can be done by showing the proportion of the business turnover or production that is dependent on the license/obligation. Firms that have a license to operate must also report if the environmental impacts are mainly emissions to water, air or ground through waste or

noise. They must also disclose whether, and if so why, the license has to be renewed and comment on important injunctions.

The obligations to inform comprise the business's direct impact on the natural environment in Sweden. The BFN points out that it can be advisable to make disclosures about indirect impacts and on the environmental impact the firm's activity has abroad.

The environmental information in the administration report is a statutory part of the annual report and is therefore an object for auditing. Neglecting to report or misleading information in the administration report may lead to a penalty (Dahlqvist and Elofson, 2002).

The regulation in Sweden concerning environmental information in the annual report has now been in force for two years. A survey by Deloitte and Touche finds that only a few of the 25 investigated firms give plain and comprehensive environmental information the first year after legislation (Deloitte and Touche, 2000b). 80% of the firms disclose the part of their activities that need a license or obligations and just 24% disclose how demanding their activities are on a license or an obligation.

Comparison

Denmark has, compared with Norway and Sweden, chosen a different way to ensure that information about a firm's environmental impact becomes available to the public. See Table 1 for a specification of some of the compared items. While the purpose of the legislation in Denmark seems to be for society in general, the legislations in Norway and Sweden have a stronger focus on the financial consequences of the environmental impacts. The investigation, made in Denmark by the Danish EPA in 1999 (Danish EPA, 1999), shows that more than a third of the investors, organizations and supervising authorities did not find the information they were looking for. The 'green accounts' seem to fall short in relevance. A similar investigation has not yet



Table 1. A specification of some of the compared items

	Denmark	Norway	Sweden	Comments
Law Firms	Green Accounts Act Sites listed in the Act	Accounts Act All firms comprised by the Act	Annual Accounts Act Companies, finance security and insurance companies with a license to operate or an obligation to report according to the Environmental Code	
Number of firms affected	1200 and a further 200 voluntary (in 2000)	Unknown	Unknown	>20 000 Swedish firms have licenses or are obligated to report
Target audience	The public and for internal environmental management	Shareholders, investors, lenders, employees, authorities, the public	Financial actors	
Minimum information requirements	Production process: amount of raw material, energy, water used, emission. Type and quantity of emission into soil, water, air and in solid waste and into the product. A management statement on significant changes from last year. Staff involved. Description of the firm and future environmental objects. Absolute terms.	Production process: amount of raw material, energy used. Type and quantity of emission and waste, risks of accidents. Environmental impact during transportation. For manufacturing firms: products' effects when used and discarded, chemicals in the product.	Direct impact on the natural environment in Sweden. Companies with license, emission to water, air, ground, through waste or noise.	
Auditing Evaluation	Not demanded In 1999 by the Danish EPA, 550 accounts	Not demanded In 2000 by Deloitte and Touche, 55 annual reports	Yes In 2000 by Deloitte and Touche, 23 companies	
Reliability Comparability	Voluntary auditing May be difficult if the information differs between years and companies	– Satisfactory	Audited Satisfactory	My opinion
Relevance	The evaluation found that more than a third did not find relevant information	Satisfactory	Satisfactory	My opinion
Comprehensibility	Demanded	Satisfactory	Satisfactory	My opinion



been performed in Norway or Sweden. However, it is important that the environmental information in the statements is adjusted to demands from stakeholders such as investors and financiers because the annual reports are an important tool in stakeholders' evaluations of companies.

In all three countries, the regulation aims at those firms whose activities have a significant impact on the environment. Norway has a more extensive demand for the information since they require that companies inform about the discharge of their products. This may give more information about the products' life-cycle than is the case in Denmark and Sweden.

The 'green accounts' in Denmark must be easy to understand and usable for non-professional readers (Danish EPA, 1999). Norwegian and Swedish legislation demand a relatively limited quantity of information with no special technical or professional expressions. The environmental information provided by the companies in these three countries seems therefore to be fairly comprehensive.

Auditing of environmental information is only required in the Swedish legislation. In the investigation made by the Danish EPA, it was found that between 10 and 20 percent of the different stakeholders did not trust the information in the green accounts. If the information the company provides is checked by external auditors, the reliability may increase, and by this, the usefulness of the report. One way to make the information reliable is to let independent experts audit the report. The Norwegian government's statement that 'there is no need for auditing' seems, from this perspective, rather unusual.

One problem with the legislations may be that if interest groups want to compare firms in terms of environmental performance, they need comparable units. General statements can be too diffuse and the information lacks comparability. To put monetary terms or different forms of ratios etc. on the environmental information may be more useful for all groups. The difficulty is that environmental issues such

as emissions and noise may be very hard to measure in monetary terms. Because environmental items do not automatically fit in the prevailing accounting theory, other reporting methods may need to be explored.

SUMMARY AND CONCLUSIONS

Only a few international standards exist concerning how environmental issues may be treated in annual reports. The basis for all information is that the report shall give a true and fair view of the firm's financial situation. Environmental issues are here no exception. They must be disclosed if they have or may in the future affect the firm's revenues, costs, possibility of staying in business etc.

Denmark and Sweden have decided through legislation to demand environmental information from companies that are working in environmentally sensitive sectors. The legislation in Norway comprises all firms included by the Accounts Act. Firms in Denmark are required to produce special 'green accounts' that are held public, while firms have to give environmental information in the administration report in Norway and Sweden. While the Danish system focuses more on society in general, the Norwegian and Swedish systems have investors, shareholders and other financiers as their target groups. See Table 1 for an overview.

The purpose of Swedish legislation is to improve environmental consciousness in the industry. Information that has financial connections shall also be reported in the firms' annual reports (Prop 1996/97:167). The objective for the Danish and Norwegian legislations is also to stimulate companies' environmental improvements. According to the Swedish government bill, the interest groups are those that have an interest in the firms' financial conditions and its possibility of development (Prop. 1996/97:167). The Norwegian information focuses also on financial evaluation of the firm (NRS, 1999) while the Danish green



report should *inter alia* be non-technical information for the public as well as a tool for the internal environmental management (Danish EPA, 2000). The aim for introducing the legislation in Norway and Sweden is to highlight the environmental issues when financial assessments are made. This is obvious since the information is held in the companies' administrative reports. The information required by the Norwegian legislation seems more extensive than the Swedish requirements. The aim for the Danish legislation is to provide a report showing how the environmental problems and performance are managed in the companies. The report is usable for all stakeholders and has no special financial approach. The 'green accounts' in Denmark must be written in a non-technical manner and the information must be accessible for the public. The environmental information required in Norway and Sweden is also non-technical, but since it is held in the administrative report, the accessibility may diminish.

The Danish green report was worded as a framework law giving much freedom to the firm in presenting its environmental profile. The legislation in Norway and Sweden set the basic limits for environmental information. However, companies that are included in the legislation are mainly companies that are leaving extensive environmental reports out of the stationary annual reports. Whether the duty to inform will motivate companies to reduce emission as Tietenberg (1998) suggested is, of course, difficult to predict. The Danish EPA's investigation shows that 44% of the respondent firms had got a better overall view of their activity's environmental impact but the less motivated firms have not got any in exchange from the environmental work.

Denmark and Sweden are members of the EU and are therefore obligated to implement the new recommendations from the European Commission in their accounting legislation (European Commission, 2001). How this implementation will be made and to what extent the recommendation is going to affect

national accounting standards are important issues for the development of financial environmental accounting. However, it is interesting to note that Norway and Sweden have more extensive requirements for environmental disclosures in annual reports than corresponding statements set by the IASC or the FASB.

The Danish EPA made in 1999 a rather comprehensive evaluation of the companies' environmental reports, the 'green accounts'. No such comprehensive studies about the environmental information in the administrative reports are yet done in Norway or Sweden. In particular, the Norwegian manufacturing companies' obligation to give information about products' environmental impact when used and discharged is an interesting topic for further studies. This rather extensive demand is unique and may seem difficult to fully obtain. It would also be important to investigate stakeholders' and companies' attitudes, as well as companies' possible environmental improvements, in view of the demand for environmental information.

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