

**The Influence of Environmental Performance on Financial Performance with Corporate Social Responsibility (CSR) Disclosure as a Moderating Variable: Evidence from Listed Companies in Indonesia**

— *Review of* —  
**Integrative  
 Business &  
 Economics**  
 — *Research* —

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**ABSTRACT**

Researches on the influence of environmental performance and Corporate Social Responsibility (CSR) Disclosure on financial performance have inconclusive results. This condition drives researcher to use CSR Disclosure as a moderating variable. This research aims to test and analyze the influence of environmental performance and CSR disclosure on financial performance with the influence of environmental performance on financial performance by using the CSR disclosure as a moderating variable.

The number of samples used in this research was ten firms in mining, chemical, pharmaceutical, cement, pulp and paper sectors which are listed on the Indonesia Stock Exchange (IDX) during 2006-2010 with 50 observation. Data are taken from annual report 2006-2010 of the companies listed on IDX which participated in PROPER since 2006 and the CSR checklist item. Data analysis is done using multiple regression and moderated regression analysis by the software SPSS version 16. The corporate financial performance is measured using net profit margin, while environmental performance is measured using PROPER rating and CSR Disclosure is measured with CSR Index.

Results indicate that (1) environment performance has a positive effect on financial performance, (2) CSR disclosure is not able to strengthen the influence of environmental performance on financial performance. This is possible because the market in Indonesia is still not efficient and market players are not using the annual report comprehensively. The environmental rating accompanied by the disclosure can be negative signal to the market.

**Keywords:** environmental performance, Corporate Social Responsibility (CSR) disclosure, financial performance.

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## I. INTRODUCTION

Nowadays, environmental issues have become an increasingly prevalent issue discussed and received widespread attention from various parties. Indonesia Environmental Analysis Report conducted by the World Bank (2009) states that inadequate environmental management is a challenge for Indonesia. The Indonesian government has been issuing numbers of policies that regulate the environment since 1982. Legal basis in terms of environmental management in Indonesia is UU No. 32 in 2009. The government has also reinforce the environmental management for the company in the UU No. 40 in 2007 regarding Limited Liability Company in a number of article 3 and article 74, where the company also plays a role in social and environmental responsibility. In addition, since 2002, MOE (Ministry of Environment) has held PROPER (Corporate Performance Rating Program in Environmental Management) which aims to encourage increased compliance of companies in environmental management and sustainable basis. In general, the assessment results PROPER 2008-2009 showed a decline as many new companies have sprung up to manage the environment in accordance with existing rules.

Based on the Environmental Performance Index (EPI) 2010 compiled by a team of environmental experts at Yale University and Columbia University, Indonesia was ranked 134<sup>th</sup> of 163 countries in the world with index 44.6. Indonesia's ranking in 2010 was declined compared with the EPI in 2008, where Indonesia was ranked 102<sup>th</sup> of 149 countries in the world with index 66.2. A significant decline, indicating environmental management in Indonesia is getting worse, where one of them is due to lack of pollution control. For Indonesia, the environmental issues are important factors that must be considered given the impact of poor environmental management increasingly evident today (Ja'far and Arifah, 2006). Inadequate environmental management has harmed the economy and the poor with a total cost of environmental damage that reached nearly 10% of GDP per year (World Bank, 2009).

Corporate Social Responsibility (CSR), as one of the new accounting concepts, based on the idea that companies have not only economic and legal responsibilities, but also responsibilities to other parties concerned (stakeholders), such as customers, employees, communities, investors, governments, suppliers and even competitors. Corporate responsibility should rest on the triple bottom lines, including financial, social, and environment because financial condition is not enough to guarantee the value of the company to grow in a sustainable manner (Anwar et al., 2010).

The increase global public awareness of environmentally friendly products has made CSR became a global trend (Hartanti and Monika, 2008). According to Kiroyan (2006) in Sayekti and Wondabio (2007) the company expected to maximize long-term financial strength by implementing CSR. This shows that companies that disclose their social responsibilities in the annual report hope to be able to obtain a positive response from market participants. According to a news release issued by the Commission VII DPR RI (2011), one of the sectors most widely accused of being a source of environmental damage is the mining sector. Cahyono (2007) adds that there are other corporate sectors are also vulnerable to the environment, such as chemical, pharmaceutical, and cement companies.

The number of previous studies about the effects of environmental performance and social responsibility reporting on financial performance that shows inconclusive results, make this topic becomes interesting and important to study. This study tried to re-examine the influence of the factors in previous studies using the disclosure of social responsibility as a moderating variable to test the effect of

environmental performance to financial performance. Based on the background described above, the matter in this study can be formulated as follows: (1) Whether the environmental performance influences financial performance, (2) Whether the disclosure of social responsibility moderates the influence of environmental performance to financial performance.

## **II. THEORETICAL BACKGROUND**

### **2.1 Environmental Performance**

Environmental performance of companies is the company's performance in creating good environment (Suratno et al., 2006). In addition, the environmental performance also means measurable results of an Environmental Management System (EMS) associated with the organization's control of its environmental aspects, based on the policies, objectives, and environmental target (Sunu, 2001). Therefore, the environmental performance of a company closely linked to environmental management in the company.

Barry and Rondinelly (1998) in Ja'far and Arifah (2006) states there are several factors that prompted the company to perform environmental management measures, namely: first, regulatory demand. Supervision of environmental management systems form the basis for the score of the environment, such as courses in environmental health and safety, because the company felt it was important to get the award in the environmental field. Second, cost factors. The complaints against the company's products will bring the consequences of the emergence of high quality supervision costs and consequences in reducing pollution also resulted in the emergence of various costs, such as the provision of waste management, use of clean engine technology, and cleaning costs. Third, the stakeholder forces. Companies will always try to satisfy the varied interests of stakeholders to find a wide need for a proactive environmental management. Fourth, competitive requirements. National and international competition has demanded the company to be able to get in the field of quality assurance among others, the series of ISO 9000 and ISO 14000 are the dominant international standards for environmental management system.

### **2.2 Corporate Social Responsibility**

Corporate social responsibility is more than just a way to achieve economic results because through these activities the company can develop and manage good relationship with stakeholders and create value for shareholders indirectly (Garriga and Mele, 2004 in Fiori et al., 2007). ISO 26000 (2010) explained that CSR is the responsibility of an organization as a result of the decisions and activities of community and environment, through transparent and ethical behavior that contributes to sustainable development, health and welfare; take into account the expectations of stakeholders; in accordance with the law applicable and consistent with international norms of behavior and integrated throughout the organization and practiced in a relationship.

There are several benefits of CSR for companies ("Corporate Social Responsibility = Corporate Sustainable Business", 2010) among others: to maintain and boost the company's reputation and brand image, get a social license to operate, reduce the risk of the company's business, expand access to resources for business

operations, opening up wider market opportunities, reduce costs associated environmental impacts, improving relationships with stakeholders, increase employee morale and productivity, and the chances of getting an award.

Various reasons for the company in conducting a voluntary CSR disclosure is to comply with existing regulations, gain competitive advantage through the implementation of CSR, the loan contract provisions and meet public expectations, legitimizing the actions of firms, and attract investors (Hasnas, 1998; Ullman, 1985; Patten, 1992; Basamalah et al., 2005 in Sayekti and Wondabio, 2007).

### **2.3 Financial Performance**

Financial performance measurement can be done with the assessment of financial ratio analysis as a basis for assessing and analyzing the company's operating accomplishment or company performance. Gray (1995) in Anwar et al. (2010) stated that profitability is a factor that gives freedom and flexibility for management to disclose the social responsibility towards shareholders. This means the higher level of company's social disclosure drives the greater profitability. Therefore, the measurement of financial performance used in this study is profitability ratios. A profitability ratio is a group that shows the combined effect of the ratio of liquidity, asset management, and debt on operating results (Brigham and Houston, 2006). One of the profitability ratios that can be used in measuring financial performance is net profit margin. This ratio indicates the company's ability to generate profits after deducting all expenses.

### **2.4 Previous Studies and Hypotheses**

Research conducted by Suratno et al. (2006) in a manufacturing company went public in Indonesia found that environmental performance results in significant positive effect on economic performance and environmental disclosure. According to Verrecchia (1983) in Suratno et al. (2006), a good environmental person believes that when they describe the performance it reveals good news for market participants.

In subsequent developments, research from Almilialia and Para (2007) showed slightly different results using the object of research in mining and forestry companies that go public in Indonesia and adding more variables. Found that environmental performance results, unexpected earnings, pre-disclosure environment, growth opportunities, and profit margin of each have no significant effect on economic performance and only environmental disclosure has a significant effect on economic performance. This is presumably because the situation in Indonesia is very different from what happened in some other countries, especially in western countries associated with the behavior of capital market in Indonesia.

These results were confirmed by the results of research Lindrianasari (2007) to the overall company listed on the Jakarta Stock Exchange stating that there is a positive but not significant between economic performance and environmental performance. This indicates that companies in Indonesia do not have the economic motivation to improve performance in managing the environment.

This research model was further developed from time to time with the result that inconclusive. Results of research conducted by Rakhiemah and Agustia (2009) in manufacturing companies indicates that partially, environmental performance and CSR disclosure would not have a significant impact on corporate financial performance. However, CSR disclosure and environmental performance simultaneously have a significant positive effect on financial performance. It can be

concluded that the two variables are mutually reinforce each other so the impact on a significant influence. This is presumably due to the behavior of capital offenders in Indonesia are very careful in determining their investment decisions so that the environmental performance variable or a stand-alone CSR disclosure has no significant influence on investor decisions referring to the company's financial performance.

Research conducted by Anwar et al. (2010) in manufacturing firms period 2005-2007 indicates that there is significant effect between financial performance which is measured using a proxy Return On Asset (ROA), Return On Equity (ROE), and Economic Value Added (EVA) to the disclosure of CSR. In addition, ROA, ROE, EVA, and disclosure of CSR also have a significant effect, either partially or simultaneously, on stock prices as an indicator in the performance of the company. This indicates that public awareness of corporate CSR reporting had influenced their investment decisions.

Thus the hypothesis in this study can be formulated as follows:

H1: environmental performance has positive influence to financial performance

H2: the higher the disclosure of social responsibility further strengthens the influence of environmental performance to financial performance

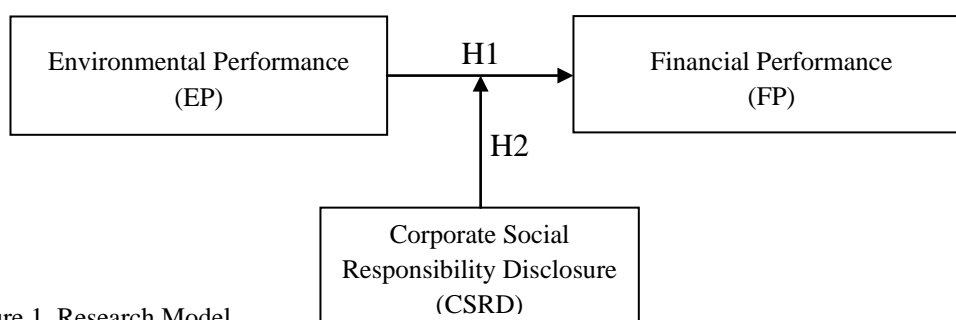


Figure 1. Research Model

### III. RESEARCH METHOD

#### 3.1 Population and Sample

Populations used in this study are publicly traded mining companies, chemical, pharmaceutical, cement, pulp and paper companies listed on the Indonesia Stock Exchange 2006-2010. Criteria used for selection of samples are as follows: (1) The mining companies, chemical, pharmaceutical, cement, pulp and paper that have published annual report in the year 2006-2010, (2) Following Corporate Performance Rating Program in Environmental Management (PROPER) since 2006. Source of data used in this study is secondary data from annual reports of listed companies in Indonesia Stock Exchange in 2006-2010 and PROPER contained in the report's rating of corporate performance in environmental management, published by the Ministry of Environment. Data collection technique used in this research is archival.

#### 3.2 Definition and Operational Variable

The first independent variable is environmental performance of the companies in creating good environment. Environmental performance is measured by the achievements of the companies in following the PROPER program which is one of the efforts made by the Ministry of Environment (MoE) to encourage restructuring

companies in environmental management through information instruments (Rakhiemah and Agustia, 2009). PROPER environmental performance rating system was measured using rating in five colors: (1) Gold rating: Very very good, score = 5, (2) Green Rating: Very good, score = 4, (3) Blue Rating: Good, score = 3, (4) Red rating: Poor, score = 2; and (5) Black rating: Very bad, score = 1.

The second independent variable is Corporate Social Responsibility Disclosure (CSRDI). It is measured using the CSRDI Index (CSRDI) which is a relatively broad disclosure of each sample firm on social disclosure they was doing (Rakhiemah and Agustia, 2009). CSRDI measurement instruments to be used in this study refer to the instruments used by Sembiring (2005). From the 78 total items CSR, CSR is used 20 items consists of 13 items that focus on environmental-category and 7 items on energy-category item. Use of these items based on categories that are directly related to the environment that can be seen in appendix. Basically, the approach to calculate the CSRDI using scoring, which is any item in CSR research instruments were given a value of 1 if disclosed, and given a value of 0 if not disclosed (Haniffa et al., 2005 in Sayekti and Wondabio, 2007). The next step is adding the scores of each item to obtain the overall score of each company used in the calculation CSRDI.

CSRDI calculation formula is as follow: (Haniffa *et al.*, 2005 dalam Sayekti dan Wondabio, 2007).

$$CSRDI_j = \frac{\sum X_{ij}}{n_j}$$

in which:

$CSRDI_j$  : *Corporate Social Responsibility Disclosure Index* company j

$n_j$  : total *item* for company j,  $n_j \leq 20$

$X_{ij}$  : *dummy variable*; 1= if *item* i was disclosed; 0 = if *item* i was not disclosed.

Thus,  $0 \leq CSRDI_j \leq 1$

Dependent variable in this study is financial performance. Proxy of the financial performance variable used in this study is net profit margin that can be formulated as follow:

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}$$

Analysis of data used in this study consists of: descriptive statistics, tests of data quality (classical assumption), and regression method. The equation to test the hypothesis is expressed in the following regression model.

$$FP = \alpha + \beta_1 EP + e$$

$$FP = \alpha + \beta_1 EP + \beta_2 CSRDI + \beta_3 EP.CSRDI + e$$

In which:

FP : Financial Performance

$\alpha$  : Constant

$\beta_1, \beta_2, \beta_3$  : Coefficient

EP : Environmental Performance

CSRDI : Corporate Social Responsibility Disclosure Index

EP.CSRDI : Moderating Variable EP and CSRDI

e : Error term

#### IV. RESULT AND DISCUSION

From population of 60 companies, there are 31 companies that do not publish annual reports consistently and 19 companies that do not or have not followed the PROPER so obtained sample of 10 companies

**Table 1. Sample**

Explanation	Total
Companies of the mining industry, chemical, pharmaceutical, cement, pulp and paper companies listed on the Indonesia Stock Exchange from 2006 to 2010	60
Companies that do not publish annual reports consistently	(31)
Companies that do not / have not been followed PROPER since 2006	(19)
<b>Total Sample</b>	<b>10</b>

Source : data processed (2011)

**Table 2. Statistic Descriptive**

	Minimum	Maximum	Mean	Std. Deviation
EP	3,0	4,5	3,450	0,5287
CSR	0,35	0,95	0,6487	0,17486
FP	0,0039	0,3048	0,115965	0,0875976

Source : data processed (2011)

Based on table 2 it can be seen that environmental performance variable has range of 3 to 4.5 with an average value of 3.45. Company that had the best environmental performance with the maximum value of 4.5 is PT Indocement Tbk during the year 2008-2009. Variable Corporate Social Responsibility Disclosure showed that the samples have average of 0.6487. The most comprehensive corporate social responsibility disclosure was undertaken by PT Indocement Tbk. in 2010 that was equal to 0.95 or 19 of the 20 items of disclosure. The most incomprehensive corporate social responsibility disclosure is undertaken by PT Kimia Farma Tbk. that was equal to 0.35 or 7 of the 20 items of disclosure. Thus the index of corporate social responsibility disclosure had range of 0.35 to 0.95. While for the financial performance can be seen from the company's financial performance index of the sample with mean 0.115965. The highest financial performance was made by PT Bukit Asam Coal Mine in 2009 with value equal to 0.3048 while the lowest company's financial performance was made by PT Unggul Indah Tbk Light in 2006 with value equal to 0.0039. Thus the financial performances of the samples were in the range of 0.0039 to 0.3048.

Based on the test of normality with the Kolmogorov-Smirnov obtained the significance value above 0.05, which means the data are normally distributed. Based on the results of multicollinearity test obtained that all the independent variables and moderating variable have VIF values < 10, which means there is not multicollinearity. Based on the test results obtained by Durbin Watson, autocorrelation value between  $du$  and  $4-du$  so that it can be concluded that the proposed model does not occur

autocorrelation. Heteroscedasticity test based on the park obtained significance value above 0.05 so there is no heteroscedasticity.

Thus, the results of testing the quality of data (normality, autocorrelation, multicollinearity, heteroscedasticity) indicates that no irregularities occur in the classical assumption test of the model used. It means that the regression model in the study can be used as a basis for analysis.

Hypothesis testing was done by using regression method. The results of data processing in model performed by using the absolute value of the difference test to examine the effect of environmental performance to financial performance with corporate social responsibility disclosure as a moderating variable which can be formulated in a multiple regression equation as follows.

$$FP = -0,305 + 0,122 EP$$

$$FP = 0,165 + 0,046 EP + 0,047 CSR - 0,052 EP.CSR$$

**Table 3. Regression Result**

Model	Var	Coef. Reg	t value	p value
FP = $\alpha + \beta_1 EP + e$		-0,305	-4,815	0,000
	EP	0,122	6,720	0,000
FP = $\alpha + \beta_1 EP + \beta_2 CSR + \beta_3 EP.CSR + e$		0,165	13,217	0,000
	EP	0,046	6,438	0,000
	CSR	0,047	6,157	0,000
	EP.CSR	-0,052	-4,621	0,000
Adjusted R <sup>2</sup> of model 1	: 0,531			
Adjusted R <sup>2</sup> of model 2	: 0,776			
F value of model 1	: 45,159 with p = 0,000*			
F value of model 2	: 45,977 with p = 0,000*			
*statistically significant at $\alpha = 5\%$				

Source: data processed (2011)

#### 4.1 The Influence of Environmental Performance on Financial Performance

Based on statistical test results it was obtained Adjusted R<sup>2</sup> value of 0.531. This means that 53.1% change in the company's financial performance in samples can be explained by the environmental performance and corporate social responsibility disclosure variables. The remaining 46.9% were influenced by other variables which are not tested in this study.

The first hypothesis states that environmental performance has positive effect on corporate financial performance. Based on the result of statistical tests it was obtained magnitude of the coefficients for the environmental performance of 0.122 with a significance level of 0.000 which is under 0.05. It means that environmental performance variable has significantly positive effect on financial performance. Thus the first hypothesis proposed in this study cannot be denied.

The results of this study support research by Bragdon and Marlin (1972) in Suratno et al. (2006), Suratno et al. (2006), and Lindrianasari (2007) in which the research results obtained indicate that environmental performance has significant effect on financial performance. Instead, these findings do not support the research



conducted by Sarumpaet (2005), and Wijayanto Almilia (2007), as well as Rakhiemah and Agustia (2009).

The invention is in line with win-win scenario of Van Der Linde (1995) in Suratno et al. (2006) which reveals that companies with good environmental performance will be rewarded by the market. Companies that make good environmental performance is certainly supported by good environmental management systems within the company. Good environmental management system can prevent companies from various surrounding communities due to the demands of the company's operational activities that could harm the environment.

#### **4.2 The Influence of Environmental Performance on Financial Performance moderated by Corporate Social Responsibility Disclosure**

Based on statistical test results it was obtained Adjusted R<sup>2</sup> value of 0.776. This means that 77.6% change in the company's financial performance in samples can be explained by the environmental performance and corporate social responsibility disclosure variables. The remaining 22.4% were influenced by other variables which are not tested in this study. From the test results obtained by calculating the F value 45.977 with a significance value of environmental performance and corporate social responsibility disclosure to the financial performance of 0.000. With Sig. < 0.05 it can be concluded that environmental performance and corporate social responsibility disclosure as a moderating variables simultaneously affect financial performance.

The second hypothesis states that the higher disclosure of social responsibility further strengthens the influence of environmental performance to financial performance. Based on statistical test results it was obtained the coefficients for the moderating variable -0.052 with a significance level 0.000 under 0.05. It means that the environmental performance significantly influence with negative direction so that the disclosure of corporate social responsibility weaken the influence of environmental performance to financial performance. Thus the second hypothesis which states that the higher disclosure of social responsibility further strengthens the influence of environmental performance to financial performance declined. It can be seen from the coefficient of environmental performance which declined after being moderated by CSR Disclosure, from 0,122 to 0,046. The results of this study do not support the basic theory and previous research conducted by Verrecchia (1983) in Suratno et al. (2006) and Anwar et al study which states that environmental players reveal their performance means describing the good news for market participants and strengthen the positive image of the company.

In general, the behavior of corporate social responsibility disclosure as a moderating variable is not in line with predictions by theoretical. Different results with the predictions, presumably because the situation in Indonesia is very different from what happened in some other countries, especially in western countries, related to the behavior of the player in the Indonesian capital market. Capital market in Indonesia has not yet reached the efficiency due to the behavior of investors in Indonesia have not been supported by a rational consideration in their investment decisions (Suad et al., 2002 in Suratno et al., 2006).

Market players in Indonesia are still not using the annual report comprehensively because they only tend to see and respond to the extent that the information given and the most viewed only through the company's profit. By just looking at corporate profit, the investor would respond that if the high corporate profit to be generated is also more favorable for investment.

The existence of an assessment of the environmental performance of companies that is accompanied by disclosure of the company on its environment can be a negative signal to market participants. When a company that has a good environmental performance reveals many activities related their environment, the market may think that the company is doing a lot of environmental pollution due to its operational activities. In addition, when company has good environmental performance turned out to make disclosures related to poor environment then this could also eventually lead to a negative thought for the market participants about the company's image. Disclosure of information related to the environment may become apparent conflict with the assessment of environmental performance so that eventually it can lead to a negative market response. As a result of negative market response the company's financial performance may decline.

The existence of this disclosure can also be regarded as a waste of cost by the market because the company must issue a variety of activities related to environmental costs, where costs could reduce corporate profits. This thinking can also being more encouraged negative response from market participants. Therefore, the disclosure of corporate social responsibility would weaken the influence of environmental performance to financial performance.

## V. CONCLUSION

Based on the findings in the previous section obtained some conclusions. First, the hypothesis that environmental performance has a positive effect on financial performance cannot be declined. Second, the hypothesis that the higher the disclosure of social responsibility further strengthens the influence of environmental performance to financial performance declined. Thus these finding reinforce the influence of environmental performance and social responsibility disclosure to the financial performance which inconclusive.

Empirical evidences found from the results of this study have implications for theoretical and empirical implications. An implication of the results of theoretical research is the disclosure of a broad social responsibility is not strengthening the influence of environmental performance to financial performance. The results provide empirical implications for companies, investors, and policymakers. Any companies that can potentially generate waste should pay more attention to environmental management and expand its social responsibility disclosure in accordance with the conditions of the company. Investors are expected to understand that environmental performance rating and information disclosure of social responsibility can be used in making investment decisions. Policymakers are expected to create reporting standards that are relevant to the needs of the accounting and regulatory environment.

The research was only done on the mining, chemical, pharmaceutical, cement, pulp and paper sectors by using sample of ten companies due to the small number of firms which are consistent in published annual report and followed PROPER. Future studies are expected to include other industry sectors so as to compare results between different types of industries, such as the banking, transportation, or other industries.

This study only used a model that examined the effect of environmental performance on financial performance with the disclosure of corporate social responsibility as a moderating variable so it is possible there are other variables that can affect. Future studies are expected to improve the model by adding variables that affect financial performance.

## APPENDIX

### CHECKLIST ITEMS OF CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE

<b>CATEGORY:</b>
<b>ENVIRONMENT</b>
1. Pollution control operations; research and development expenditures for pollution abatement.
2. Statement which indicates that the company's operations do not cause pollution or comply with pollution laws and regulations.
3. Statement which indicates that the operation of pollution have been or will be reduced.
4. Prevention or repairmen environmental damage caused by the processing of natural resources, for example land reclamation or reforestation.
5. Conservation of natural resources, such as recycled glass, iron, oil, water and paper.
6. The use of recycled material.
7. Accepting the award related to the environment program that created the company.
8. Designing harmonious facilities with the environment.
9. Contribution in the art that aims to beautify the environment.
10. Contributions in the restoration of historical buildings.
11. Waste treatment.
12. Study the environmental impact of the company to monitor the impacts.
13. Environmental protection.
<b>ENERGY</b>
1. Using energy more efficiently in operating activities.
2. Utilize scrap to produce energy.
3. Energy savings as a result of recycled products.
4. Discusses the company's efforts in reducing energy consumption.
5. Improved energy efficiency of products.
6. Research that leads to increased energy efficiency from products.
7. The company's energy policy.
<b>TOTAL 20 ITEMS</b>

Source: modified from Hackston dan Milne (1999) in Sembiring (2005)

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