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Investigative Studies on Environmental Disclosure and the Costs of R&D as a Compliance with Government Policy on Complete Social Responsibility in Indonesia

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Abstract

The research objective is to provide empirical evidence on companies' responsibility to achieve sustainable development, not only for Indonesia but for the world. This study investigated the allocation of research and development costs as other government regulations issued related to the environment i.e, in 2004, 2007, and 2012. Samples observations as many as 246 companies in 11 years.

This study separately examined the enforcement of laws related to the environment three times (2004, 2007, and 2012). The test results show that the disclosure of environmental information by food and beverage companies in Indonesia increased significantly after the legislation was issued. This finding suggests that since the Indonesia government ratified the Kyoto Protocol in 2004, Indonesia companies are more transparent in terms of informing the public about the environmental conservation activities that they do.

The study also found that there is a positive relationship between the allocation of research and development costs associated with the reduction of the company's carbon emissions during the year of observation. Significant relationships were also found in 2007 when the government issued Law No.40 of 2007. However, in 2012 we did not find a significant relationship. This study concluded that the legal instruments that require companies to reduce carbon emissions is urgently needed in developing countries like Indonesia. This policy will also determine the success of Indonesia in realizing the commitments to reduce carbon emissions.

Keywords

Environmental disclosure, sustainability development, Kyoto Protocol, carbon emissions, greenhouse gases, cost of research and development.

1. Background

The restlessness of the entire world on issues of extreme climate change has awakened countries to the need to agree and cooperate on decreasing the carbon emissions index. Carbon emissions are generally produced from fuel combustion coming from companies, vehicles, and households. There has been extensive thought given to ways of overcoming this global problem. There has been great momentum since the Kyoto Protocol was signed in Kyoto (Japan) on December 11th, 1997 and effectively applied on February 16th, 2005, after the official ratification from Russia in November 2004. The Kyoto Protocol was adopted from the Rio De Janeiro Earth Summit in 1992 (<http://id.wikipedia.org/wiki/ProtokolKyoto>).

Consideration of the issuance of UU RI No.17 Year 2004 is :

"... that the Earth's climate change as the result of increasing greenhouse gas concentration in the atmosphere generates adverse effects on [the] environment and human life, so it needs to be controlled in accordance with common but differentiated responsibilities by paying attention to social and economic conditions of each country; that as an archipelago country that has the second longest shoreline in the world, Indonesia is very susceptible towards the effects of climate change, including the raising of sea level that as a developing country, Indonesia needs to develop industry with clean technologies especially ones having low emissions; that as a tropical country that has the second largest forest, Indonesia has an important role in affecting the Earth's climate" (UU RI No. 17 Year 2004).

It was very reasonable for Indonesia to issue UU No 17 Year 2004. Considering the conditions facing the world, cooperation among countries that have tropical rainforests like Indonesia is required. Even though the acceleration of development in Indonesia from industry and transportation are still being conducted, the mechanism of clean development should be the priority to minimize the carbon emissions from development.

There is no shortage of companies in Indonesia that have used high-end technology to save fuel costs and to reduce emissions as the cause of the greenhouse effect (<http://www.voaindonesia.com/content/perusahaan-perusahaan-mulai-kurangi-emisi-tingkatkan-laba/84320.htm>). Some companies

in Indonesia feel the use of carbon emission reduction through energy efficiency is increasing corporate earnings and also strengthening their commitment to social and environmental responsibilities.

The government's policy related to the environment was shown by the issuance of some serious policies after UU RI No. 17 Year 2004 was issued. In 2012, regulations for corporate social responsibility or social responsibility were implemented, and they have been strengthened by the issuance of Government Regulation No.47/2012 about the social and environmental responsibility of an incorporated company. Government Regulation No.47/2012 was issued in the beginning of April by the government. This government regulation was long-awaited by the public in Indonesia and was expected to be able to determine corporate obligations as well as spell out the expectations for corporate social responsibility in detail. Government Regulation No.47/2012 completes matters that have not been determined by UU No 40 Year 2007 of Incorporated Company.

One of articles in UU No 40 Year 2007 about incorporated companies contains article 74 [1] and states that a corporation that runs its business in a field related to natural resources is required to implement social and environmental responsibilities. However, that extent of the obligation for these social and environmental responsibilities has not been explained in detail. Government Regulation No.47/2012 about the social and environmental responsibilities of incorporated companies tries to detail what social and environmental responsibility for each company looks like. Therefore, this research is important to investigate the extent to which government policies on clear disclosure of environmental impacts is related to a company's efforts to reduce carbon emissions. This research is one of the first of its kind in Indonesia that discusses the issue of carbon emissions in the field of accountancy. All this time, research related to CSR and the environment has not discussed the problem of carbon emissions. Furthermore, it has not investigated deeply how the company conducts recognition and measurement on carbon emission of greenhouse gas in corporate reports.

Meanwhile, at the world level, it was found that among 800 of the biggest companies in the world, only 37% reported data on

greenhouse gas emissions completely and in accordance with global standards. It also found that only 21% of the 800 biggest companies in the world who report greenhouse gas emissions data is verified. Therefore, this research will center on the area of carbon emissions. Some fundamental research questions that are the focus of this research are the following:

- 1) Did the company put forth effort to reduce carbon emissions after UU RI No.17 Year 2004 and other regulations were issued? To answer this research question, the investigation on research and development costs in corporate financial reports will be conducted.
- 2) Did any change occur on social responsibility cost allocation entirely after government policies related to social responsibility were applied in Indonesia?
- 3) Did the capital market respond to the company's action on the effort to reduce carbon emission?

This research provides investigation results and empirical evidence on companies' responses on the policy issued by the government related to social responsibility. Furthermore, this research aims to present a policy model related to corporate responsibility in Indonesia in creating sustainable development, not only for Indonesia but for the world. The response of a capital market actor that will be evaluated from stock trading volume will be investigated as information that deepens the evidence of community awareness on sustainable development.

This research is important because although there has been much government policy issued related to social and environmental responsibility for companies, social and environmental issues remain a serious problem in Indonesia. This research tries to offer a model of government policy related to social and environmental responsibility, specifically regarding its implementation. With the success of this research, it is expected to provide a policy model that can be offered to the government as a contribution from the accountability community.

2. Theoretical Framework

This study uses two theories-legitimacy theory and regulation theory-underlying the issue being investigated that are related to regulation and the cost allocation of research and development that aims to reduce

corporate carbon emissions as a means of reducing social and environmental impact. Lindrianasari (2007) explains that even in a situation where there is no obligation from authority, many companies voluntarily conduct environmental accountability disclosure (voluntary environmental disclosure). This is done to maintain corporate reputation and to avoid any form of community rejection. This explanation is supported by legitimacy theory, which provides an alternative reason why a company is encouraged to conduct environmental disclosure.

Regulation theory states that a concentrated economy is the reason for protecting public interest. In this theory, legislative authorities make regulations to protect financial report users by good economic performance. Regulation needed when failure occurs and when not delivered by demand and theory assumes that regulations and (including in accountability) are The government's role is needed to set conditions and to determine what a company should do to provide the information. Needed so that all users and present are able to get same and equal information.

2.1 Previous Research and Hypothesis Development

2.1.1 Regulation plays a role in increasing corporate obedience in allocating costs to reduce corporate carbon emissions

Even though some companies voluntarily conduct environmental accountability disclosure, the quality of disclosure has not been adequate. In such situations, the disclosure seems to be only a social contract between the company and the surrounding community used to legitimize the company in the eyes of the community (Deegan, 2002; and O'Dwyer, 2003 in Lindrianasari, 2007). The study done in Lampung Province shows that companies tend to disclose profitable information (good news) but not less profitable information (bad news) (Lindrianasari, 2004). In relation to government policy, this research aims to investigate the quality of disclosure that is clear on environmental issues.

In 2008, the level of CO₂ in the atmosphere was 385 ppm, and it increases 2 or 3 ppm each year. To stop its increase to the level of 450 ppm-the level that John D. Sterman, a scientist from MIT Sloan School of Management USA, considers very dangerous- the world has to reduce the

emission of CO₂ by about 80 percent by 2050 (<http://abaaaaaay.wordpress.com/2009/12/30/carbon-sink/>). Scientists and researchers from a number of fields have contributed their thoughts and analysis. Sterman (2012) argued that most of the means companies, individuals, and governments use related to sustainability are directed for unsustainable activities, and they do not help the cause. These means include policies to reduce waste, energy, and material used; policies to reduce greenhouse gas, to promote green products, and local consumption; and others. Sterman encourages communities to focus on the causes and to make policies with a low failure level to encourage the creation of sustainable development.

Tools for calculating and recording information related to carbon emissions is being developed. Cook (2009) explains that the International Accounting Standard Board (IASB), until now, has been having discussions about accountancy and carbon emissions. Marland, Fruit, and Sedjo (2001) offer the idea of recognizing emission credit leasing when emission decreasing is unclear. This model is also assisted by CDM (the clean development mechanism), a development mechanism without carbon, especially in a developing country. Sijm et al. 2006 in Hopwood 2009 has introduced a consistent price pattern that merges opportunity cost and selling price. Soussana et al. 2007 conducted formulations of budgeting that can cover each CO₂ change (as the effect of greenhouse gas). Neumayer (2000) proposes the concept (might be only a "term") of his torical accountability that was known as "natural debt" (it was introduced by Gröbler and Fuji (1991) and Smith (1991) in Neumayer, 2000) as the concept that should be used to count emission allocation of a certain year over some periods of the following years. Burtraw, Palmer, Bharvirkar, and Paul (2001) proposed a substitute for the cost allocation method that can be used in the state electrical sector. Almost all studies in this area offer ideas on what recognition and recording are ideal for anticipating the effects of global climate change.

This research tries to provide information on how companies in Indonesia respond to global climate change caused by carbon emissions that form greenhouse and contribute to global warming. Any means has been done by company as the form of sustainability development and social responsibility. Marland, Fruit, and Sedjo

(2001) conducted a study to provide quantitative evidence on emissions produced from greenhouse gas that, since 1998 (Kyoto Protocol), has become more of a focus for each country. A paper by Marland et al. (2001) offers that if emissions reduction can be done permanently (for example, without combustion of fuel and natural gas), then emission credit might be able to be rented. The issue offered in the paper of Marland et al. (2001) is quite interesting and is in line with the concept that has been explored by the Environmental Ministry of Columbia's government. They stated that regardless of the presence or the absence of the Kyoto Protocol, carbon emissions should be a primary focus in planning.

Another issue that is central to discussions on the Kyoto Protocol is the commitment of the protocol explaining this emission problem (company) does not discuss (uses fundamental consideration) problems / accountancy regulation to measure emission or to give penalty on the failure of commitment fulfillment of each company. Schlamadinger and Marland (2000 in Marland et al, 2001) have explained the needs for established accountancy regulations. However, the fact that carbon produced by a country or a company is different should also be considered.

The challenge for accountancy spoils separately because the concept of the Kyoto Protocol does not clearly count all carbon emissions in the atmosphere or all changes of the carbon supply in the biosphere. Marland et al. (2001) offers ideas regarding conducting emission credit rental when the decrease of emissions is unclear, whether or not it occurs permanently. This model will be assisted by CDM, which is the mechanism of clean development (without carbon) for developing countries.

Voluntary action taken by a company is a signal to government that it is time to formulate regulations to support voluntary actions (Haufler 2001 in Potoski and Prakash 2005). The study of Potoski and Prakash (2005) showed that the regulation issued by the country for an entity will increase obedience from that entity more than before. Börzel and Risse (2010) found corporate governance that is not supported by fundamental regulations from government is able to run but without clear direction. Their research confirmed how important regulation in a country is making corporate governance

run well. The thesis built on the argument above is:

H1: There is a significant relationship between quality of environmental disclosure regarding the decrease of carbon emissions before and after the issuance of government policy related to the environment.

Recognition and accountability recording to respond carbon emission produced by the company, until today, have not had any agreement between country (Neumayer, 2000; Cook, 2009; and Hopwood, 2009), even in European countries that prioritize environmental issues. Now, accountability must be involved in environmental problems. The International Accounting Standard Board (IASB) continues to conduct discussions about accountability for carbon emissions (Cook, 2009). This argument and discussion centers around problems of conceptual and technical issues. Hopwood (2009) discussed some ways of addressing problems in accountability and mechanisms of other calculation related to environmental problems. Hopwood focused his study on the importance of accountability recording on carbon emissions and a corporate social responsibility report. However, this study did not clearly show any costs that have to be considered related to carbon emissions.

In this study, it is explained that the European Emission Trading Scheme (Emission Trading Scheme in European Countries) has to consider opportunity cost. Some countries under the European scheme have a tendency to allocate emissions in different accountability. However, a study centered in Germany and The Netherlands (Sijm et al, 2006 in Hopwood 2009) found price patterns that are consistent with the merge of opportunity cost included into price. In addition, even though other research (IETA-International Emission Trading, 2007) found variations in accountability for emissions in an external report of a European company, the result of this research seems to prove that accountability recording related to carbon emissions has not been even, especially in European countries.

Some researchers who try to offer formulation to calculate fund allocation related to the effect of greenhouse gas are Neumayer, 2000 and Soussana et al. 2007. Joint research done by 28 researchers from 13 universities in Europe initiated by Soussana and Allard (Soussana et al, 2007) has created a means

for making formulations to determine the size of a budget that can cover every CO₂ change (as the effect of greenhouse gas). The awareness on global climate change becomes the motivation of this research. Nine websites are used in this study to identify greenhouse gas turning into savannah in some types of European countries. This research assumes the importance of the greenhouse gas effect balance by including all ecosystem effects on the atmosphere into atmosphere budgeting. This similarity is then called full accounting. This study does not explain the concept of accountability further, including how the record must be done to admit carbon emission cost.

On the other side, Neumayer (2000) proposed the term historical accountability, which used to be known as "natural debt" (introduced by Grübler and Fujili (1991) and Smith (1991) in Neumayer, 2000), as the concept used to count emissions allocation of certain years over some periods of the following years. The idea is to use historical accountability so that the country which is in the previous year has exceeded the level of carbon emission has to put effort to reduce its carbon emission in the next years. In other words, the concept of historical accountability that will determine the size of Historical Emission Debt (HED) always compares to the effect of greenhouse gas produced by each country time to time. Furthermore, the country that has positive HED must compensate the country that has a negative HED. From here, carbon emission trading is eventually appearing. Historical accountability does not mean delegating mistakes of past generations to present generations, rather it is more about how all human beings are able to use the environment together, free from health threats. The hypothesis formulated from the explanation above is:

H2: There is a significant relationship between the amount of R & D cost allocated reducing carbon emissions after the issuance of government policy related to the environment.

2.1.2 There is a positive relationship between the amount of R&D cost allocation related to reducing energy and similar activities towards environmental disclosure level.

Fisher-Vanden and Wing (2007) conducted a study to show accountability numbers relate to qualified products. The study conducted by Fisher-Vanden and Wing investigated the cost

of research and development (R&D) in companies in developing countries, especially China. They found an opposite relationship between R&D and the use of energy and emissions. In other words, this study found that the companies that spent more on R&D (related to the global warming issue) produced products that were more qualified because they were produced by ecofriendly production methods. Products produced by reducing energy and fossil fuel combustion would eventually reduce carbon emissions in the air. The presence of balance between the increase of R&D cost and the decrease of energy use eventually gets the advantage of ecofriendly products.

This study will analyze whether the increase of R&D cost in year t will affect environmental disclosure in an involved company. This study will analyze corporate management disclosure and search records on financial reports on R&D cost allocation. The research of Kennedy (2010) found that corporate obedience to environmental regulation can improve the selling strategy of a company. They called it community-based social marketing techniques. The next hypotheses formulated based on the discussion above are the following:

H3: There is a positive relationship between the amount of R&D cost allocation related to the reduction of energy and similar activities related to the level of environmental disclosure.

H4: There is a positive relationship between the amount of R&D cost allocation related to the reduction of energy and similar activities related to international certification.

3. Research Methodology

The sample used for this research is all manufacturing companies listed on the Indonesian Stock Index. The observation period used in this research is 2001-2013 (13 years). This research uses secondary data with archives, which is the annual report of the company and government policies related to social and environmental responsibility. This research explores investigations on the company in the years around policy implementation. The observation is focused on the action of the company in implementing the content of the policy issued by government.

For the first, second, and third hypotheses (H1, H2 dan H3), the testing is done by using

correlation test. The testing of H1 and H2 is aimed to show the presence of obedience relationship of each company when government policy related to social and environmental responsibility is implemented. Meanwhile, the testing of the third hypothesis is meant for HED, which is hard environmental disclosure, a disclosure on environmental quality on the reduction of carbon emissions and/or the success of a company in obtaining international certification related to corporate social responsibility (ISO26001 and ISO 14001).

4. Study and Discussion

The sample used for this research is all manufacturing companies in the third digit, which is especially for companies in the consumer goods industry sector listed on the Indonesian Stock Index. Until October 2015, the number of companies in the goods and consumer industry sector was 40 companies. The final total for the research sample is 246 companies. The years of the observation period used in this research was 2001-2013 (13 years). This research uses secondary data and archives, which are the annual reports issued by the company and government policy related to social and environmental responsibility. This research is also used to investigate the company in the years around the policy implementation. The observation focused on the actions of the company in implementing content of the policy issued by government related to social and environmental issues. Table 1 presents descriptive statistics for each research variable.

Table 1
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Dev.
ISO 26001/14001	246	0	1	.65	.47
Envi Disclosure	246	0	1	.21	.40
RnD	246	.00	76826000.00	1143049.6190	6502732
Sales Growth	246	-88.68	13581.87	90.2616	894.7
Market Reaction	246	20.00	201000.00	13089.9309	32466.3
Valid N (listwise)	246				

Tabel 2
Correlation Test Result

Panel 1: Hypothesis 1 Testing	Reg2 004	Reg2 007	Reg2 012

Environmental Disclosure	Correlation Sig.	.152***	.197***	.192***
Panel 2: Hypothesis 2 Testing		Reg2 004	Reg2 007	Reg2 012
R & D Cost	Correlation Sig.	.047	.093*	.025
		.238	.079	.353

***. Correlation is significant at the 0.01 level (1-tailed)

**. Correlation is significant at the 0.05 level (1-tailed)

*. Correlation is significant at the 0.1 level (1-tailed)

For the first, second, and third hypotheses (H1, H2 and H3), the testing is done by using a correlation test. The testing of H1 and H2 is used to show the presence of a relationship between each company when government policy related to social and environmental responsibility is implemented. Meanwhile, the testing of the third hypothesis is meant for HED, which is hard environmental disclosure, a disclosure on the quality of the environment on carbon emissions and/or the success of the company in obtaining international certification related to corporate social responsibility (ISO26001 and ISO14001)

Testing the First Hypothesis

Testing of the first hypothesis is done separately in three periods (2004, 2007, and 2012), which are the years of the issuance of UU RI No.17 Year 2004, UU No 40 Year 2007, and Government Regulation No.47/2012 (complementary of UU No 40 Year 2007), respectively. The three periods are predicted to affect the level of corporate obedience related to the environment.

From the testing result presented in Panel 1 Table 2, environmental information disclosures from food and beverage companies in Indonesia are increasing significantly and improving after regulations government ratified the Kyoto Protocol in 2004, companies in Indonesia are more transparent when it comes to informing the community about their environmental conservation activity.

The correlation test result shows that in all years when regulations related to the environment were issued, increased environmental accountancy disclosure followed. When the regulation was issued in

2004, correlation test results showed the presence of relationships of as much as 15.2% between the policy and external environmental accountancy disclosure. The significance we found is 0.008 with an observation sample of as many as 246 companies in 11 years. Meanwhile, after the regulation was issued in 2007 and 2012, the area of environmental accountancy disclosure was wider with the strength of relationship as high as 19.7% and 19.2%, and the level of significance of each relationship is the same, which is 0.001. The result of this finding becomes the reason to accept the first hypothesis, which states that there is a significant relationship between the quality of environmental disclosure and the reduction of carbon emissions after the implementation of government policy related to the environment.

Testing the second Hypothesis

Besides the environmental Information disclosure, we also observed the expense of research and development cost for the companies. This research found that there is positive relationship between research and development cost allocation related to the reduction of carbon emissions of a company for the three years of observation, 2004, 2007, and 2012, of as high as 4.7%, 9.3%, and 2.5%, respectively. However, a significant relationship was only found in 2007, which was 0.079 when the government issued Law Number 40 Year 2007 (see Table 2 Panel 2). In 2004 and 2012, a significant relationship was not found. For the relationship between the implementation of regulations in 2004 and the cost of R&D that is not significant, it is assumed that other legal devices have not been prepared adequately. While the relationship that is not significant was found in 2012 is predicted because the regulation issued in that year is only the completion of the previous laws.

The second finding in both of the first hypotheses of this research indicates that legal devices requiring companies to reduce carbon emissions are crucial in determining the success of Indonesia in realizing its commitment to reduce carbon emissions. However, this has to be followed by monitoring and evaluating continuously to ensure that the company keeps running in accordance with the direction given by the state.

The hypothesis of this research states that there is a positive relationship between the amount of R&D cost allocation related to the

reduction of energy and similar activity towards the increase of environmental disclosure. The correlation testing result shows the presence of a positive relationship that is significant between R&D cost and corporate environmental disclosure. With the value of P_{value} 0.050 and the correlation as high as 10.8%, there is reason to accept the prediction on the relationship between both variables in this research. The company that deliberately conducts a study to reduce carbon emissions and tries to develop more eco-friendly products generally has valuable information in its social and environmental responsibility disclosure. The correlation testing result of the third hypothesis is presented in Table 3 Panel 1.

Table 3
Correlation Testing Result

panel 1: Hypothesis 3 Testing	Correlation	ISO26001/14001 0.244***
R & D Cost	Sig.	.000
Panel 2: Hypothesis 4 Testing	Correlation	EnviDis .108**
R & D Cost	Sig.	.0.05

***. Correlation is significant at the 0.01 level (1-tailed)

**. Correlation is significant at the 0.05 level (1-tailed)

*. Correlation is significant at the 0.1 level (1-tailed)

2
There is a positive relationship between the amount of R&D cost relative to the reduction of energy and similar activity related to International certification. The correlation testing result shows that there is a positive relationship that is significant between R&D cost and international certification received by the company (see Table 3 Panel 2). With the value of P_{value} 0.000 and the correlation as high as 24.4%, there is enough reason to accept the hypothesis proposed. This is not much different from the explanation in the third hypothesis discussion above—that the company conducting sustainable development creates more eco-friendly products and generally has valuable information in its social and environmental responsibility disclosure. One of the goals of R&D for a business is to reduce carbon emissions in such a way that the company receives international certification as a company that has fulfilled the criteria for a

company that is responsible to its society and the environment.

The next test is to see whether the capital market responds to the company's actions to reduce carbon emissions. The correlation testing result shows the correlation value is 17.9% and the significance level is as high as 0.002 ($P_{value} < 0,05$). This result shows that the market reacts on certification issued by an international agency to a company that is evaluated has conducted social responsibility. For environmental disclosure related to carbon emissions by a company, the market does not show the relationship predicted in the hypothesis of this research.

This finding indicates that the market reacts to information given to independent parties on the environmental issue. It also seems to confirm the research done by Ningsih et al. (2014) that shows the presence of lag between the quality of environmental disclosure (uses index issued by International Federation of Accountant - IFAC) and cost allocation issued by the company in conducting corporate social and environmental conservation activities. The finding of Ningsih et al. shows that the investigation that only focuses on the disclosure of a management party without considering other elements related to corporate responsibility related to the environment, such as cost allocation of environment and R&D related to the environment, will give misleading findings.

5. Summary, Implications, Limitations, and Suggestions

Summary

This research shows that legal device has a strong relationship on corporate obedience in implementing mandates contained in the regulation. For three years of issuance and implementation of the regulation related to corporate social and environmental responsibility, this research found the presence of obedience shown by the company towards the policy.

However, this cannot be evaluated as a reason to assume that the company has done its best for the environment on the issuance and implementation of the policy. This research also continues the investigation on the fund allocation of R&D issued by the company as the means to minimize carbon emissions. The results obtained show that only after the issuance of UU No.17 year 2007 about Incorporated Company / Perseroan Terbatas (PT) was there an increase in fund allocation

of a company's R&D. This research summaries that the legal device requiring companies to reduce carbon emissions is crucial in determining the success of Indonesia in reducing carbon emissions. However and evaluating continuously to ensure that the direction given by the state.

Fund allocation of R&D Is not a stand-alone item. It is proven from the result testing done in this research that R & D relates positively with the area of environmental disclosure and international party recognition. Because environmental problems are a great issue that always creates new issues that are very relevant to technology development, this research is very important. Even the smallest contribution given by the researcher related to the means of human and company in controlling negative effects on the environment should be welcomed.

The limitation that we faced during this research is the limitation faced by many researchers in Indonesia, which is the limitation of data and available information. Because there are some variables needed in this research, the unavailability of complete data affects the elimination of the company from the sample list. It eventually causes limited data that can be processed by this research. Moreover, the evaluation on environmental disclosure is very subjective, so the research result may contain bias. However, by using professional justification, it is expected that the bias occurring in this research can be reduced.

The next research that can be done is in the form of comparisons with other countries. Conducting comparisons with countries that have succeeded in controlling environmental effects by using regulatory devices will allow Indonesia to reflect on how to create policies that will benefit all parties. Policies should favor the community. The control of environmental effects then becomes one of the country's main focuses for prospering its citizens.

References

- Borzal, Tanja A. and Thomas Risse. (2010), "Governance whitout a state: Can it work?", Regulation & Governance Vol.4; 113-134
- Burtraw, Dallas, Karen Palmer, Ranjit Bharvirkar, and Anthony Paul. (2001), The

Effect of Allowance Allocation on the Cost of Carbon Emission Trading. Discussion paper of Resources for the Future

- Cook, A, (2009), "Emission rights: From costless activity to market operations", Accounting, Organizations and Society 34; 3-4

- Deegan, C. (2002), Introduction: The legitimising effect of social and environmental disclosures- a theoretical foundation", Accounting, Auditing & Accountability Journal, Vol. 15 No. 3: 282-311

- Fisher-Vanden K. and Wing, Ian Sue. (2007), Accounting for Quality: Issues with Modeling the Impact of R&D on Economic Growth and Carbon Emissions in Developing Economies. Paper serie

- Haufler, Virginia, 2001. A Public Role for the Private Sector. Washington: Carnegie Endowment for International Peace.

- Hopwood, Anthony G. (2009), "Accounting and the environment", Accounting, Organizations and Society Vol.34: 433-439

<http://abaaaaaay.wordpress.com/2009/12/30/carbon-sink/diunduh>: 23 May 2013

http://id.wikipedia.org/wiki/Protokol_Kyoto. Diunduh 19 May 2013

http://www.deloitte.com/assets/Dcom-Australia/Local%20assets/Documents/Deloitte_Accounting_Emissionright_Feb07.pdf diunduh 19 May 2013

[http://www.ey.com/Publication/vwLUAssets/Accounting_for_emission_reductions_and_other_incentive_schemes/\\$FILE/Accounting_emission_reductions_july09.pdf](http://www.ey.com/Publication/vwLUAssets/Accounting_for_emission_reductions_and_other_incentive_schemes/$FILE/Accounting_emission_reductions_july09.pdf) diunduh 25 May 2013

http://www.fasb.org/jsp/FASB/FASBContent_C/ProjectUpdatePage&cid=900000011097 diunduh 25 May 2013

<http://www.voaindonesia.com/content/perusahaan-perusahaan-mulai-kurangi-emisi-tingkatan-laba-/84320.htm> diunduh 19 May 2013

- Kennedy, Amanda L. (2010), "Using Community-Based Social Marketing Techniques to Enhance Environmental Regulation", Sustainability 2; 1138-1160

- Lindrianasari, (2004), Pemeriksaan kepatuhan terhadap pengelolaan lingkungan hidup pada perusahaan-perusahaan di Provinsi Lampung", Proceeding DepDikNas
- Lindrianasari, (2007). "Hubungan antara kinerja lingkungan dan kualitas pengungkapan lingkungan dengan kinerja ekonomi perusahaan di Indonesia". *Jurnal Akuntansi dan Auditing Indonesia* Vol. 11, No.2: 159-172
- Marland, Gregg, Kristy Fruit, and Roger Sedjo. (2001), Accounting for sequestered carbon: the question of permanence. *Environmental Science & Policy*
- Neumayer, Eric. (2000), "In Defence of Historical Accountability for Greenhouse Gas Emissions", *Ecological Economics*, 33 (2); 185-192
- O'Dwyer, B. (2003), "Managerial perception of corporate social disclosure: An Irish story Accounting, Auditing & Accountability Journal. Vol.15, No.3; 406-436
- Potoski, Matthew and Aseem Prakash. (2005), "Green Clubs and Voluntary Governance: ISO 14001 and Firms" Regulatory Compliance", *American Journal of Political Science*. Vol. 49, No. 2: 235-24
- Schlamadinger, B., Marland, G., (2000), Land Use & Global Climate Change: Forests, Land Management, and the Kyoto Protocol.
- Pew Center on Global Climate Change, Arlington, VA, USA, p. 54, available at www.pewclimate.org
- Sijm, J., Neuhoof, K. Chen, Y. (2006), CO2 cost pass through and windfall profits in the power sector. Working paper. Electricity policy research group, University of Cambridge
- Soussana, Allard, Pilegaard, Ambus, Amman, Campbell, Ceschia, Clifton-Brown, Czobel, Domingues, Flechar, Fuhrer, Hensen, Horvath, Jones, Kasper, Martin, Nagy, Neftel, Raschi, Baronti, Rees, Skiba, Stefani, Manca, Sutton, Tuba, Valentini. (2007), "Full accounting of the greenhouse gas (CO2, N2O, CH4) budget of nine European grassland sites", *Agriculture, Ecosystems and Environment* 121: 121-134
- Sterman, John D. (2012), *Sustaining Sustainability: Creating a Systems Science in a Fragmented Academy and Polarized World*. M.P. Weinstein and R.E. Turner (eds.), *Sustainability Science: The Emerging Paradigm 21 and the Urban Environment*. Publisher: Springer Science Business Media
- Undang-undang RO No. 17 Tahun (2004), tentang Pengesahan *Kyoto Protocol To the United Nations Framework Convention on Climate Change* (Protokol Kyoto atas Konvensi Kerangka Kerja Perserikatan Bangsa-Bangsa tentang Perubahan Iklim)

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