The Climate Change Strategy-the Company's Performance: Examining the Mediating Role of The Disclosure of Climate Change in Indonesia

Titik Mildawati*, Dian Agustia, Noorlailie Soewarno****

*STIESIA, Surabaya, Indonesia
**Airlangga University, Indonesia

Abstract- The purpose of this study is to prove the influence of climate change strategy on the company's performance with the disclosure of climate change as a mediator. Research using explanatory approach from secondary data of carbon emitter company that is companies in the manufacturing, mining, utility, plantation and transportation sectors which is listed on the Indonesia Stock Exchange. Data is taken from annual reports, sustainability reports, and corporate website in 2010 up to 2016 of 259 firm years. The results analysis shows that the climate change strategy either proactive and reactive give positive influence to the company's performance, the climate change strategy gives positive influence to the disclosure of climate change, the disclosure of climate change gives positive influence to the company's performance, the disclosure of climate change has been able to mediated the positive influence of the climate change strategy to the company's performance.

Index Terms- climate change strategy, the disclosure of climate change, environmental performance, the company's performance

I. INTRODUCTION

The influence of global warming on human life has led to a series of serious actions from the world community to make efforts to prevent the effects of global warming is increasingly widespread. The response of scientists and governments to the importance of corporate action in climate change activity seems to spread and develop rapidly (Jones and Levy, 2007). Industrial pollution is considered one of the main causes of global warming. Media, global leaders, the environment, customers, investors and other stakeholders consider this issue seriously (Ahmad and Hossain, 2015). Traditional enterprise strategies used in a market-based economy cause negative impacts on the natural environment that threaten ecosystems that support human existence (Michalishin and Stinchfield, 2010). So companies face many challenges to prove that they are careful about environmental pollution and treat it responsibly.

There is a relationship between environmental strategies and the company's performance as a result of environmental innovation (Russo and Fouts, 1997). Organizational capabilities associated with pollution prevention technologies will lead to cost savings only if a company also has complementary capabilities in innovation processes and implementations (Christmann, 1999). Similarly, Klassen and Whybark (1999) found that the ability to develop and use manufacturing initiatives collectively into a portfolio of environmental technologies. This capability will help the companies improve production and environmental performance simultaneously that increase leads to continuous improvement, innovation, and integration of total quality management in operations.

The theory of legitimacy explicitly recognizes that business is bound by social contracts in which the company agrees to take socially desirable actions in return for agreeing to business objectives and other benefits, and this ultimately ensures their business continuity (Reverte, 2009). Gray (2006) argues that theory of legitimacy is an organization-oriented view of society that allows organizations to focus on the role of information and openness in relationships between organizations, states, individuals and groups. Campbell's (2000) research on Corporate Social Responsibility (CSR) and CSR reporting found that companies use voluntary disclosure to fulfill social contracts and build corporate legitimacy. With resources based view, legitimacy is seen as an organizational resource for survival. The organization will adopt a strategy to ensure the continued supply of these resources (Deegan, 2002).

Delivery of environmental and social issues through annual report which is the most preferred media because it is considered the most effective and considered the most credible (Abdel-Rahim, 2010). The results of research Matsumura et al (2011) on the impact of corporate value on carbon emissions and voluntary disclosure of carbon emissions with data from the Carbon Disclosure Project indicates that the stock market recognizes companies for their carbon emissions, but more penalties are imposed on companies that do not disclose emission information. This result is consistent Lungu et al (2009) stated the company discloses environmental activities because the company needs recognition from the community towards their commitment to environmental improvement efforts. For some companies, this disclosure effort is just a way to improve the company's image.

Indonesia is one of the world's largest emitters of greenhouse gas emissions. According to data from REDD (Reduction Emissions from Deforestation and Forest Degradation) cooperation, in 2005 Indonesia contributed 2.05 giga tons of greenhouse gas emissions. This fact places Indonesia as the third largest contributor of carbon emission in the world after the United States (5.95 giga ton) and China (5.06 gigand tons). Indonesia's carbon gas emissions are predicted to be 3 giga tons of CO2 by 2020. Based on the Human Development Report released by United Nations Development Program (UNDP) in 2008, Indonesia is ranked 14th in the world for carbon emissions, far below developed countries that produce carbon (Natural Resources Development Center, 2013).

Based on the above description, then the formulation of the problem in this study is whether the climate change strategy influences the company's performance is mediated by disclouse climate change strategy, so there are four research questions below: (1) Does the climate change strategy affect the company's performance? (2) Does climate change strategy affect the disclosure of climate change? (3) Does the disclosure of climate change affect the company's performance? (4) Does climate change strategy influencing the company's performance through the disclosure of climate change?. The objectives of this study are expected to provide an explanation of climate change issues in Indonesia through empirical testing by: (1) proves that climate change strategies affect the company's performance. (2) proving that climate change strategy influence of the disclosure of climate change (3) proves that the disclosure of climate change affects the company's performance (4) proves that climate change strategy influences the company's performance through the disclosure of climate change. While theoretical benefits of this research are: (1) This research can provide empirical evidence that complements pre-existing research and is the development of management accounting science, particularly the field of environmental cost management to the linkage between climate change strategy, the disclosure of climate change, and performance company. (2) Contributes to the development of Resources Based View theory and theory of legitimacy underlying the selection of climate change strategies for the achievement of the company's performance.

II. IDENTIFY, RESEARCH AND COLLECT IDEA

Literature Review and Hypotheses

The Climate Change Strategy influence to The Company's Performance

Hart (1995) points out within the framework of Natural Resourced Based View (NRBV) there are three interconnected strategies: pollution prevention, product stewardship, and sustainable development that can be applied to address various types of environmental problems, including climate change. Some research on the impact of environmental strategies and the company's performance provides evidence that the proactive environment provides performance that adds revenue and cost reduction (Porter and Linde, 1995) that proactive environmental management can reduce production costs by reducing the amount of waste and the needs of various inputs, including energy and raw materials, logistics costs by reducing product weight and packaging (Rao and Holt, 2005). In addition to impacting costs, environmental management can have an impact on revenue. Companies can achieve revenue growth in existing markets through reputation enhancement by demonstrating the reduction of environmental impacts of products and processes by conducting environmental management systems (Klassen and Mclaughlin, 1996). In addition, a proactive approach to environmental and performance management can provide access to new markets (Porter and Linde, 1995), particularly environmentally conscious markets that demand environmentally friendly products, such as hybrid and electric vehicles (Su Yol Lee and Rhee, 2007).

Research on reactive environmental strategies suggests that sustainability initiatives that organizations commonly use are cost efficiency. Efficiency is carried out, among others, by the use of less water, the use of reasonable electricity, improve the supply chain by cutting travel or transportation and waste, and reduce the use of non-renewable energy sources (Ratiu, 2011). Companies improve performance and gain competitive advantage not by increasing revenue from sales. The hypothesis proposed is as follows.

H1a: The proactive climate change strategy has a positive influence to the company's performance
H1b: The reactive climate change strategy has a positive influence to the company's performance

The Climate Change Strategy influence to the Disclosure of Climate Change

Social pressure to reduce greenhouse gases is generally regarded as one of the main determinants of the company's commitment to climate change issues (Hoffman, 2005; Okereke, 2013). Ernst and Young's (2010) study of 300 major corporate executives from 16 countries shows that 84% of executives surveyed perceived stakeholder expectations as an important or very important element of the decision to engage in climate change issues. In addition, governments, investors, suppliers, customers, competitors, and the general public are becoming increasingly aware of the problem and tend to exert institutional pressure, especially in carbon-intensive industries (Okereke and Russell, 2010; Kolk and Pinkse, 2005). The companies in this sector are responsible for the carbon footprint in industrialized countries. The companies must face new social and regulatory pressures adopted to combat climate change (Talbot and Boiral, 2015).

Research on the corporate disclosure of climate change issues generally emphasizes the importance of enterprise efforts to social legitimacy, the type of communication and the particular arguments used to justify the company's negative impact. The literature on impression management and technical neutralization, while not specifically addressing climate change issues, makes it possible to better analyze the arguments used by companies to enhance or protect corporate image, especially when their social legitimacy is threatened (Talbot and Boiral, 2015). The company exhibits a reactive attitude by denying responsibility on issues of climate change and a proactive attitude will anticipate responsibility for the problem and find ways to respond to climate change issues so that both proactive and reactive strategies will reveal climate change issues to support its chosen strategy (Dawkins and Fraas, 2011). The hypothesis proposed is as follows:

H2a: The proactive climate change strategy has positive influence to the disclosure of climate change.
H2b: The reactive climate change strategy has positive influence to the disclosure of climate change

Disclosure of Climate Change influence to the Company's Performance

Research Guo (2014) indicates that the disclosure of climate change is positively related to stock returns. Companies concerned with climate change are more likely to disclose climate change information to comply with the SEC 2010 guidelines. Ahmad and Hossain (2015) tested 79 companies about global warming and concluded that although the disclosure of climate change is not mandatory for Malaysian companies, they continue to disclose it. While Ziegler et al (2011) conducted a portfolio analysis on the effect of disclosure of responses on climate change to stock performance indicates that there is a positive influence between the disclosure of climate change and stock performance. Matsumura (2014) examines data collected from companies that disclose voluntary Carbon Disclosure Projects in the S & P 500 firm to find that the firm's value effects of managers that disclose carbon emissions are higher than firms that do not disclose. The hypothesis proposed is as follows:

H3: Disclosure of change has a positive influence to the company's performance.

The Climate Change Strategies influence to the Company's Performance through the Disclosure of Climate Change

Wartick and Cochran (1985) declare a company that exhibits a reactive attitude of denying responsibility and a company that exhibits a proactive attitude anticipates responsibility for issues and seeks ways to become a leader in responding to issues. Associated with disclosure with poor environmental performance records using disclosures to explain their performance (Brown and Deegan, 1998). Through corporate disclosure will reduce the likelihood of negative market reactions to information, including stock price reductions and shareholder litigations in which companies seek to polish stakeholder relationships by slightly adjusting policies (Ashforth et al., 2013). Furthermore, the value of the firm will increase with the selection of a proactive strategy to anticipates responsibility for issues and seeks ways to be a response leader to address climate change and increasing disclosure of climate change strategies to legitimize activities and to enhance firm social image.

H 4a : The proactive climate change strategy has a positive influence to the company's performance through the disclosure of climate change.
H 4 b: The reactive climate change strategy has a positive influence to the company's performance through the disclosure of climate change.

Method

Research Setting and Sample

The research approach used explanatory research which is a research that try to give a description and try to explain the reason of a phenomenon that has been studied. Data analysis in this research is done by using PLS (Partial Least Square) which is one part of SEM statistic (Structural Equation Method) based on variant. The use of PLS-SEM is recommended for strategic management research (Hair et al., 2014). The population of this study are all companies in the sector that contribute carbon emission that is energy sector, industry sector, forestry sector, agriculture sector, and transportation sector listed in Indonesia Stock Exchange on 2010 until 2016. This is done because structure of company operational relatively same. The sample selected using purposive sampling. Determination of the year of research starting in 2010 because Indonesia which in this case represented BSN (Badan Standarisasi Nasional) in December 2009 began to adopt ISO related Greenhouse Gas (GHG). Data used in this research is secondary data (financial statements, annual reports, and sustanaibility reports of carbon emitter company listed in Indonesia Stock Exchange. Data sources are obtained from: (a) Indonesia Stock Exchange (IDX), (b) Database at www.idx.co.id; and (c) web company. A number of companies in manufacturing sector, mining sector, utility and transportation infrastructure sector published financial statements, sustainability reports, and annual reports revealing the issue of climate change during the years from 2010 to 2016 used as samples is 266 firm years.

Research Variables and Measurement

The climate change strategy referred to in this research is the company's strategic choice in responding to climate change (Kolk and Pinkse, 2005). Measurement of the climate change strategy is done by content analysis on financial statements, annual

reports, sustainability reports, and company web. To measure climate change strategies we use instrument develop by Kolk and Pinkse (2005). The items are: (a) proactive strategy: (1) process improvement is companies reduce energy, use energy more efficiently, and reduce greenhouse gas emissions by developing and implementing energy efficient new technologies. (2) product development to reduce emissions on current products and/or develop new energy-efficient products ; and (3) new product or new market combinations that reduce emission targets by entering new markets or strategic alliances and other forms of cooperation with other companies; (b) reactive strategies: (1) transfer of internal emissions by transferring intensive emissions activities to low pressure locations to reduce emissions, (2) supply-chain measures is replacing lower-emission inputs (using electricity from renewable energy sources) or transferring high-emission activities to partners through subcontracts (transportation sub-contracts), (3) emissions credit/emissions credit acquisition is companies interacting with parties others to reduce emissions either by purchasing emissions credits or through mechanisms such as Joint Implementation or Clean Development Mechanism. Measurement of the climate change strategy by giving value to the implementation of climate change activity: value 0 if no strategy statement, value 1 if no plan, value 2 if have plan but not yet implemented, value 3 if started implemented, value 4 if implemented but not yet evaluated, and value 5 if it has been implemented and evaluated the results (Binh and Khang, 2005).

The disclosure of climate change referred to in this study is the communication of the company's activities with regard to information on greenhouse gas emissions. The measurement of the disclosure of climate change is done by content analysis on annual reports, sustainability reports, and company web. To measure of the disclosure of climate change we use indicators in the Global Reporting Initiative or G4 GRI (2013) added 14 additional information (Prado-Lorenzo et al., 2009). GRI indicators include: (1) direct greenhouse gas (GHG) emissions (scope 1), (2) energy indirect greenhouse gas (GHG) emissions, (3) other indirect greenhouse gas (GHG) emissions, (4) greenhouse gas (GHG) emissions intensity, (5) reduction of greenhouse gas (GHG) emissions, (6) emissions of ozone-depleting substances (ODS) and (7) other significant air emissions. Additional information includes: (8) Target to reduce greenhouse gas emissions, (9) Specific statement from the CEO or company chairman that mentions climate change, (10) Consideration of climate change by the board of directors, (11) The words "climate change "or" global warming ", (12) Business of climate (use, energy, coal, diesel petrol, gas etc.), (14) Section devoted to climate change or global warming, (15) A target to reduce energy use or improve energy efficiency, (17) Opportunities for setting up a carbon funds or engaging in emissions trading scheme, (18) Management responsibility for climate change specifics, (19) Credits for Clean Development Mechanism (CDM) a projects under the Kyoto protocol, (20) Credits from Joint Implementation (JI) projects under the Kyoto Protocol, and (21) Increased forest fires. Measurements are made by identifying content of the disclosure of climate change. Scale of disclosure are value 0 if there is no statement, value 1 if stated in 1-2 sentences, value 2 if stated in 1 paragraph (at least 3 sentences), value 3 if stated in half page or 1-3 paragraph, value 4 if stated in 1 page or 3-6 paragraphs, and value 5 if more 1 page or more 6 paragraphs (Gunawan et al, 2008).

The company’s performance in this research is a description of the company's financial condition at a certain period. The company’s performance is measured based on the accounting performance (ROA) that is ROA (Return on Asset) which is dividing net profit (EAT) with total assets and ROE (Return on Equity) divide net income (EAT) with total equity and market performance with tobin's q. q = (MVS + D)/TA, where: MVS = Market Value of all outstanding Shares is the market value of shares obtained from the multiplication of the number of outstanding shares with the stock price (Outstanding Shares* Stock Price). D = Debt is the market value of the debt, TA = Firm's Asset's; D = (AVCL - AVCA) + AVLTD, where: AVCL = Accounting Value of the firm’s Current Liabilities = Short Term Debt + Taxes Payable, AVLTD = Accounting Value of the firm's Long Term Debt = Long Term Debt, AVCA = Accounting Value of the firm's Current Asset.

Validity Test and Reliability Test

The PLS analysis was tested using WarpPls version 5.0 software to test the effect of the climate change strategy, the disclosure of climate change, and the company’s performance. The relationship model between latent variables and indicators in this study is shown by the reflective model. Based on the value of loading factor with gradual testing so that each indicator has a value outer loading factor above 0.6, the indicator used in this analysis is proactive the climate change strategy consists of process improvement and new product/market combination. The reactive climate change strategy consists of internal emission transfer indicator and acquisition of emission credit / emissions credit trading. The disclosure of climate change variables are direct greenhouse gas (GHG) emissions, indirect greenhouse gas (GHG) emissions, other indirect greenhouse gas (GHG) emissions, greenhouse gas (GHG) emissions intensity, emissions of ozone-depleting substances (ODS) significant air emissions, Consideration of climate change by the board of directors, The words "climate change" or "global warming", Business opportunities from climate change, for example related to products, services or technologies, Use of energy (electricity use, coal, diesel petrol, gas etc.), Section devoted to climate change or global warming. And the company’s performance variables with ROA, ROE, and Tobin's Q indicators. The value of the composite reliability of each variable above 0.6 indicates that the model meets the reliability test. Based on the above criteria, it can be concluded that the measurement model is good because it has fulfilled the validity and reliability requirements.

Results of modeling fit model with four fit model size is Average Path Coefficient (APC) of 0.215 with P <0.001, Average R-squared (ARS) value of 0.132 with P = 0.008, Average adjusted R-squared (AARS) amount 0.123 with P = 0.011, and Average

block value of VIF (AVIF) of 1.010 less than 3.3 indicates that there is no multicollinearity problem between the indicator and the variables used.

Evaluation of the structural model by looking at R^2 and Q^2 Predictive Relevance to evaluate the structural model (Inner model) is. R^2 is the coefficient of determination in the endogenous construct and the path parameter coefficient, while the value of Q^2 Predictive Relevance is used to validate the predictive ability of the model. The latent variable has an R^2 of 0.186 which means small and the company's performance has R^2 of 0.077 which means small. Calculate the value of Q^2 and get the value of Q^2 of 0. 180 for the disclosure of climate change and the value of Q^2 for the company's performance of 0.083. A Q^2 value greater than 0 indicates that the firm's performance model has relevant predictions.

Hypothesis Testing

Test significance by comparing p-value with alpha (α) used in this study is 5%. The result of the test to know the direct influence of one variable on another variable and the result of path analysis shows coefficient and p-value for each path can be seen in figure 1.

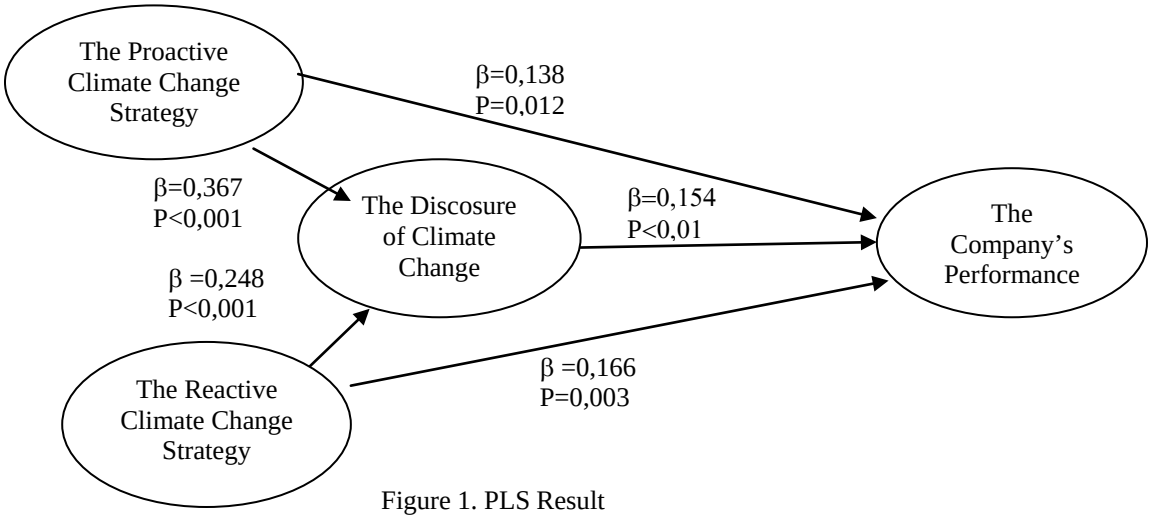

Figure 1. PLS Result

The proactive climate change strategy to the company's performance is positive that is equal to 0.138 with p-value less than 5%. This means that the proactive climate change strategy has a significant positive influence of the company's performance, the more proactive the climate change strategy, the better the company's performance. The resulting effect size value is 0.019 less than 0.35 indicates that proactive climate change strategies have little effect that means proactive climate change strategies have little role to improve the company's performance.

The reactive climate change strategy to the company's performance is positive 0.166 with p-value less than 5%. This means that the reactive climate change strategy has a significant positive influence of the company's performance, the more reactive the climate change strategy, the better the company's performance. The resulting Effect Size value of 0.03 2 smaller than 0.35 indicates that the reactive climate change strategy has little influence of the company's performance that means the reactive climate change strategy has little role to improve the company's performance.

The proactive climate change strategy to the disclosure of climate change resulted positive was 0.367 with p-value less than 5%. This means that the proactive climate change strategy has a significant positive influence of the disclosure of climate change, more proactive in the climate change strategy than more the disclosure of climate change. The resulting value of Effect Size of 0.130 less than 0.35 indicates that a the proactive climate change strategy has little influence of the disclosure of climate change that means proactive climate change strategies have little role to increase the disclosure of climate change.

The reactive climate change strategy to the disclosure of climate change resulted positive was 0.248 with p-value less than 5%. This means that the reactive climate change strategy has a significant positive influence of the disclosure of climate change, more the reactive climate change strategy, then more the disclosure of climate change. The resulting Effect Size value of 0.056 smaller than 0.35 indicates that the reactive climate change strategy has little influence of the disclosure of climate change that means that reactive climate change strategies have little role to increase the disclosure of climate change.

The disclosure of climate change to the company's performance is positive that is 0.154 with p-value less than 5%. This means that the disclosure of climate change has a significant positive influence of the company's performance, more proactive the climate change strategy, then more the disclosure of climate change. The resulting Effect Size value of 0.026 smaller than 0.35

indicates that the disclosure of climate change has little influence of the company's performance that means the disclosure of climate change has a small role to improve the company's performance.

To examine effect the proactive climate change strategy on the company's performance mediated by the disclosure of climate change is done with two analyzes is analysis without involving the disclosure of climate change in the influence of the proactive climate change strategy to the company's performance and analysis by involving the disclosure of climate change in the influence of the proactive climate change strategy to the company's performance.

The test results show the coefficient of the proactive climate change strategy path on the company's performance without involving the disclosure of climate change is positive at 0.140 with p-value less than 5%. The path coefficients the proactive climate change strategy on the company's performance with the mediation the disclosure of climate change resulting into a positive by 0.138 with a p-value of less than 5%. All of path showed a significant pathway and decrease the coefficient but still significant, that mean there is mediation effects of the disclosure of climate change in effect of the proactive climate change strategy to company's performance (Hair et al, 2014). Furthermore, calculate Variance Account For (VAF) to determine the form of mediation and how mediation variable able to absorb a significant direct effect earlier than the model without mediation variable. From the calculations in Table 1 are known value of VAF is 0.289 or close to 0.30. which means partial mediation (Hair et al, 2014).

Table 1. Test of Indirect Influence (VAF) Proactive Climate Change Strategy to Company's Performance with Mediation The Disclosure of Climate Change

Indirect influence:		0.057
The proactive climate change strategy → the disclosure of climate	0.367	
change	0.154	
The disclosure of climate change → the company's performance		
direct influence: the proactive climate change strategy → the company's performance (without involving the disclosure of climate change as a mediator)		0.140
total effect		0.197
VAF = indirect influence / total effect	0.057/0.197	0.289

To test the effect of climate change strategies reactive to the company's performance that are mediated by the disclosure of climate change performed with two analysis: the analysis without involving the disclosure of climate change in the effect of reactive climate change strategies to the company's performance and analysis by involving the disclosure of climate change in the effect of the reactive climate change strategy to the company's performance.

The test results demonstrate the path coefficient the reactive climate change strategy on the company's performance without involving the disclosure of climate change is positive at 0.193 with a p-value of less than 5%. The path coefficients of the reactive strategy climate change on the company's performance with mediate the disclosure of climate change is a positive 0.166 with a p-value of less than 5%. All three paths are significant and coefficients decreased with remained significant, so that there is a mediating effect of the disclosure of climate change in influence the proactive climate change strategy on company's performance. Furthermore calculate Variance Account For (VAF) to determine the form of mediation and how mediation variable able to absorb a significant direct effect earlier than the model without mediation variable. From the calculations in Table 2 are known value of VAF is 0.165 or less to 0.30. which means there is no mediation effect (Hair et al, 2014).

Table 2. Test of Indirect Influence (VAF) Reactive Climate Change Strategy to the Company's Performance with Mediation of the Disclosure of Climate Change

Indirect influence:		0.038
The reactive climate change strategy → the disclosure of climate	0.248	
change	0.154	
The disclosure of climate change → the company's performance		
Direct influence: the reactive climate change strategy → the company's performance (without involving the disclosure of climate change as a mediator)		0.193
Total effect		0.231
VAF = indirect influence / total effect	0.038/0.231	0.165

III. WRITE DOWN YOUR STUDIES AND FINDINGS

Results of testing the hypothesis 1a the proactive climate change strategy has positive influence of the company's performance, which means consistent with the hypothesis that states 1a the proactive climate change strategy give positive influence of the company's performance. In other words, the hypothesis 1a successfully received. The implementation of a the proactive climate change strategy of carbon emitters firm (manufacturing, mining, plantation sector, infrastructure sector, utilities and transport) can be seen in the annual reports, sustainability reports, and web companies. Proactive strategies carried out by means of process improvement company can reduce energy, use energy more efficiently, and measures to reduce greenhouse gas emissions by developing and applying new technologies that save energy and combination products/new markets by entering new markets or strategic alliances and other forms of cooperation with other companies. The use of the proactive climate change strategy resulted in increased the company's performance caused their cost efficiency and increased revenue. The decline in costs is obtained with a more compliant, such as waste reduction and pollution prevention and enterprises with environmental strategies proactively generating ability of the organization to contribute to a competitive advantage suit with the research Hart and Ahuja (1999), Klassen and McLaughlin (1996) and Russo and Fouts (1997).

Results of testing the hypothesis 1b the reactive climate change strategy has positive influence of the company's performance that means the reactive climate change strategy have positive an influence of the company's performance in accordance with the stated hypothesis 1b the reactive climate change strategy have positive influence of the company's performance. In other words, the hypothesis 1 b accepted. Companies emitting carbon with the reactive climate change strategy perform reduce emissions with internal transfers by transferring an intensive emissions to the location that the low pressure to reduce emissions and companies interact with others to reduce emissions, and buying emissions credits through mechanisms such as joint implementation or Clean Development mechanism (CDM). The reactive climate change strategy influence of the company's performance due to this strategy cost efficiency with move responsibility for climate change issues to the other party. These results support the research conducted by Ratiu (2011) which states that the strategy is a reactive environment sustainability initiatives are generally used by organizations with cost efficiency and not to create competitive advantage by increasing revenues.

Results of testing the hypothesis 2a the proactive climate change strategy has positive influence of the disclosure of climate change indicate that the proactive climate change strategy has an significant influence of the disclosure of climate change consistent with the hypothesis 2a which the proactive climate change strategy has positive influence on the disclosure of climate change. This means that the hypothesis 2a accepted. Carbon Emission Disclosure in Indonesia is still a voluntary disclosure and the practice is still rarely carried out by business entities. According to the study Pradini (2013), the disclosure practices of greenhouse gas emissions, including carbon emissions is still low to fullfil the ISO 14064-1 guidelines. Companies that perform disclosure of carbon emissions are considerated the legitimacy of the stakeholders, avoiding the threats, especially for companies that produce greenhouse gases such as increased operating costs, reduced demand, reputational risk, legal proceedings, as well as fines and penalties. Research conducted by containt analysis by Pradini (2013) using an index developed by the ISO as an indicator of the disclosure found that disclosure of greenhouse gas emissions is not affected profitability. Instead, Jannah (2014) using an index developed by the Carbon Disclosure Project (CDP) as the disclosure of climate change found that the disclosure of emissions significantly influenced by the profitability, leverage. According to research conducted by Dawkins and Fraas (2011) which concluded that the company will proactively anticipate responsibility for the problem and looking for ways to respond to climate change issues by informing stakeholders.

Results of testing the hypothesis 2b reactive climate change strategies has positive effect the disclosure of climate change indicate the reactive strategy climate change give positive influence of the disclosure of climate change means in accordance with the hypothesis 2b which the reactive climate change strategy has positive influence of the disclosure of climate change. This means that the hypothesis 2b accepted. Company emitter of carbon in the voluntary inform activities related to climate change. Everything is aimed to enhance the corporate image in order to attract investors to the company's value, which means the company's performance is good. The results showed that climate change information express company to just meet the existing regulations. According to Dawkins and Fraas (2011) the company showed a reactive stance to deny responsibility. Reactive strategies in the social responsibility tend to resist or escape from social responsibility.

Results of testing the hypothesis 3 the disclosure of climate change has positive influence of the company's performance indicate that the disclosure of climate change give significant influence of the company's performance consistent with the hypothesis 3 which of climate change has positive influence of the company's performance. This means that the hypothesis 3 accepted. Carbon emitters have disclosed activities related to the climate change. The purpose of disclosure is to improve the image of the company to attract investors so that the value of the company and then the company's performance go up. Management's efforts to disclose the climate change strategy are seen by investors as information to meet government regulations, so that investors respond to any information disclosed by the company. This is consistent with the theory of legitimacy which argues that voluntary disclosure is primarily to respond to external pressures (Deegan, 2002)

Results of testing the hypothesis 4a the proactive climate change strategy has a positive influence of the company's performance mediated the disclosure of climate change shows the disclosure of climate change mediates positive effects on the proactive climate change strategy and the company's performance. Companies with the proactive climate change strategy in

anticipation of responsibility for climate change issues, in addition to the company is already looking for ways to response these responsibilities. Therefore, the company has a good record of environmental performance so it does not need to use the disclosures to explain their performance. This is consistent opinion of Brown and Deegan (1998) that companies with a poor environmental performance record using the disclosure to explain their performance.

Results of testing the hypothesis 4b the reactive climate change strategy has positive influence of the company's performance mediated the disclosure of climate change shows the disclosure of climate change mediating positive influence reactive climate change strategies to the company's performance. The reactive climate change strategy will reject responsibility by transferring responsibility to the other party to anticipate the climate change issue. Adherents of this reactive climate change will give a justification of this strategy was intended to provide more disclosure. Companies with climate change strategies reactive show poor environmental track record and will use the disclosures to explain their performance. Through the company's disclosure will reduce the likelihood of a negative market reaction to the information, including the decline in share prices and shareholder lawsuits in which the company tried to polish stakeholder relations with a bit of adjusting policies. This is according to research conducted by Brown and Deegan (1998) and Ashforth et al (2013).

IV. GET PEER REVIEWED

Here comes the most crucial step for yourresearch publication. Ensure the drafted journal is critically reviewed by your peers or any subject matter experts. Always try to get maximum review comments even if you are well confident about your paper.

For peer review send you research paper in IJSRP format to editor@ijsrp.org.

V. IMPROVEMENT AS PER REVIEWER COMMENTS

Analyze and understand all the provided review comments thoroughly. Now make the required amendments in your paper. If you are not confident about any review comment, then don't forget to get clarity about that comment. And in some cases there could be chances where your paper receives number of critical remarks. In that cases don't get disheartened and try to improvise the maximum.

After submission IJSRP will send you reviewer comment within 10-15 days of submission and you can send us the updated paper within a week for publishing.

This completes the entire process required for widespread of research work on open front. Generally all International Journals are governed by an Intellectual body and they select the most suitable paper for publishing after a thorough analysis of submitted paper. Selected paper get published (online and printed) in their periodicals and get indexed by number of sources.

After the successful review and payment, IJSRP will publish your paper for the current edition. You can find the payment details at: http://ijsrp.org/online-publication-charge.html.

VI. CONCLUSION

Based on the analysis and discussion in the previous section, we have following conclusions: (1) The climate change strategy give positive influence of the company's performance (2) The climate change strategy have positive influence of the disclosure of climate change, (3) The disclosure of climate change give positive influence of the company's performance, and (4) the disclosure of climate change has been able to mediated the positive influence of the climate change strategy to company's performance. Limitations the result are: (1) There are many companies that make sustainability reports from 2010 to 2016, (2) Samples were company emitters of carbon with the purposive sampling method with discretion (judgment sampling). The results of the analysis based on this method has the disadvantage to generalisation, and (3) This study analyzes only a proactive and reactive strategies. Based on the results of research implications and limitations of the study, the following suggestions are given for the improvement of future research (1) For the improvement of practices in government, the result of research can be used as an input to supplement the guidelines relating to carbon emissions law (2) for the improvement of practices in the company, the result of this study provides information to companies about the importance of innovation to respon climate change both in the process and products to create competitive advantage, contributes in raising the management awareness on climate change issues and lets employees make decisions about his relationship with company (3) for the improvement of accounting education, the result of this research to contributes in increasing academic concern related to improving accounting education curriculum. This research resulted in the disclosure of the findings of the climate change issue. Disclosure of the climate change issue is included in the management accounting subjects, so student get current issues relating to the sustainability accounting, can be used as a basis for evaluation materials and curriculum for accounting education. (4) For the

next study, this research is not separate sectors, then in the next study should be separated into sectors, because deferent sector produced deferent number emition carbon. Finally, Strategy Management Corporate Social Responsibility consists of Strategy Reactive social responsibility tend to resist or escape from social responsibility, strategy defensive in responsibility social undertaken by companies associated with the use of legal approaches or legal means to avoid or reject social responsibility, strategy accommodating a social responsibility to run the company due to the demands of society and environment of it, proactive strategy considers that social responsibility is part of the responsibility to satisfy stakeholders. If the stakeholders are satisfied, then the positive image of the company will build, and for future research is expected to add a accomodating strategy and defensive strategy variables.

APPENDIX

Appendixes, if needed, appear before the acknowledgment.

ACKNOWLEDGMENT

The preferred spelling of the word “acknowledgment” in American English is without an “e” after the “g.” Use the singular heading even if you have many acknowledgments.

REFERENCES

[1] Abdel-rahim, H. Y. M. (2010). Green Accounting – A Proposition for EA / ER Conceptual Implementation Methodology. Journal of Sustainability and Green business.

[2] Ahmad, N. N. N., & Hossain, D. M. (2015). Climate Change and Global Warming Discourses and Disclosures in the Corporate Annual Reports: A Study on the Malaysian Companies. Procedia - Social and Behavioral Sciences, 172, 246–253.

[3] Ashforth, B. E., Gibbs, B. W., & Gibbs, B. W. (2013). The Double-Edge of Organizational Legitimation, 1(2), 177–194.

[4] Binh, H. D., & Khang, D. B. (2005). Business Responses to Climate Change in Developing Countries: A Conceptual Framework*.

[5] Brown, N., & Deegan, C. (1998). The public disclosure of environmental performance information--a... Accounting and Business Research, 29(1), 21–41.

[6] Campbell, D. J. (2000). Legitimacy Theory or Managerial Reality Construction ? Corporate Social Disclosure in Marks and Spencer Pic Corporate Reports, 1969-1997. Accounting Forum, 24(1), 80–100.

[7] Christmann, P. (1999). Effects of “ Best Practices ” of Environmental Management on Cost Advantage: The Role of Complementary Assets. Academy of Management Journal.

[8] Dawkins, C., & Fraas, J. W. (2011). Coming Clean: The Impact of Environmental Performance and Visibility on Corporate The disclosure of climate change. Journal of Business Ethics, 100(2), 303–322.

[9] Deegan, C. (2002). Introduction: The Legitimising Effect Of Social And Environmental Disclosures–A Theoretical Foundation. Accounting, Auditing & Accountability Journal, 15(3), 282–311.

[10] Ernst & Young. (2010). Action Amid Uncertainty The Business Response to Climate Change.

[11] Gray, R. (2006). Social, Environmental and Sustainability Reporting and Organisational Value Creation? Accounting, Auditing & Accountability Journal, 19(6), 793–819.

[12] Gunawan, J., Djajadikerta, H., & Smith, M. (2008). An Examination of Corporate Social Disclosures in The Annual Reports of Indonesia Listed Companies. Asia Pacific Centre for Environmental Accountability / APCEA Journal, Vol.15, No. 1., 15(1).

[13] Gou, Yin, 2014, 2010 Sec The disclosure of climate change: Determinants and Impacts, dissertation, University of Hawai.

[14] Hair, J Hair, Joseph F., Hult, G. Tomas M., Ringle, Christian M., (2014). A Primer on Partial Least Squares Structural Equation Modeling (PlS-Sem). sage Publications, Inc.

[15] Hart, S. L. (1995). A Natural-Resource-Based View of the Firm. The Academy of Management Review, 20(4), 986–1014.

[16] Hart, S. L., & Ahuja, G. (1999). Does it pay to be green? An Empirical Examination of The Relationship Between Emission Reduction and The company’s performance. International Journal of Environmental Studies, 56(4), 497–507.

[17] Hoffman, A. J. (2005). Climate Change Strategy: The Business Logic Behind Voluntary Greenhouse Gas Reduction. California Management Review, 47(3), 21–46.

[18] Jones, C., & Levy, D. (2007). North American Business Strategies Towards Climate Change. European Management Journal, 25(6), 428–440.

[19] Klassen, R. D., & Mclaughlin, C. P. (1996). The Impact of Environmental Management on The company’s performance. Management Sciences, 42(8), 1199–1214.

[20] Klassen, R. D., & Whybark, D. C. (1999). The Impact of Environmental, Technologies on Manufacturing Performance. Academy of Management Journal, 42(6), 599–615.

[21] Kolk, A., & Pinkse, J. (2004). The Evolution of Multinationals’ Responses to Climate Change. In the Second International Conference on “International Corporate Responsibility” (Vol. 2, pp. 175–190).

[22] Kolk, A., & Pinkse, J. (2005). Business Responses to Climate Change: Identifying Emergent Strategies. California Management Review, 47(3), 6–20.

[23] Lee, S. Y., & Rhee, S.-K. (2007). The Change in Corporate Environmental Strategies: a Longitudinal Empirical Study. Management Decision, 45(2), 196–216.

[24] Lungu, C. I., Caraiani, C., Dascalu, C., Guse, R., & Sahlian, D. (2009). Corporate Social and Environmental Reporting: Another Dimension for Accounting Information. SSRN Electronic Journal, 8(2), 47–77.

[25] Matsumura, E. M., & Dc, W. (2011). Voluntary Disclosure and the Firm-Value Effercts of Carbon Emission, The Accounting Review, volume 89, issue 2, 695-724.

[26] Michalishin, M. D., & Stinchfield, B.. T. (2010). Climate Change Strategies and The company’s performance: an Empirical Investigation of the Natural Resource-Based View of the Firm. Journal of Business Strategies, Volume 27(number 2), 124–149.

[27] Natural Resources Development Center. (2013). Konsep REDD+ dan Implementasinya. Natural Resources Development Center.

[28] Okereke, C., & Kung, K. (2013). Climate Policy and Business Climate Strategies: EU Cement Companies' Response to Climate Change and Barriers Against Action. Management of Environmental Quality: An International Journal, 24(3), 286–310.

[29] Okereke, C., & Russel, D. (2010). Regulatory Pressure And Competitive Dynamics: Carbon Management Strategies Of UK Energy-Intensive Companies. California Management Review, 52(4), 100–124.

[30] Pemerintah Indonesia. Peraturan Presiden No. 61 tahun 2011 (2011).

[31] Porter, M. E., & van der Linde, C. (1995). Green and Competitive: Ending the Stalemate. Harvard Business Review, 28(6), 128–129.

[32] Pradini, Harlinda Siska (2015), The Analysis of Information Content Towards Greenhouse Gas Emissions Disclosurein Indonesia Companies, Thesis, Faculty of Economics And Business, University of Diponegoro Semarang

[33] Prado-Lorenzo, J.-M., Rodríguez-Domínguez, L., Gallego-Álvarez, I., & García-Sánchez, I.-M. (2009). Factors Influencing the Disclosure of Greenhouse Gas Emissions in Companies World-Wide. Management Decision, 47(7), 1133–1157.

[34] Rao, P., & Holt, D. (2005). Do Green Supply Chains Lead to Competitiveness and Economic Performance? International Journal of Operations & Production Management, 25(9), 898–916.

[35] Ratiu, C. (2011). Proactive Sustainability Stategies and Capability Development: Insights from the Public Transportasion Industry.

[36] Reverte, C. (2009). Determinants of Corporate Social Responsibility Disclosure Ratings by Spanish Listed Firms. Journal of Business Ethics, 88(2), 351–366.

[37] Russo, M. V, & Fouts, P. A. (1997). A Resource-Based Perspective On Corporate Environmental Performance And Profitability. Academy of Management Journal, 40(3), 534–559.

[38] Talbot, D., & Boiral, O. (2015). Strategies for Climate Change and Impression Management: A Case Study Among Canada's Large Industrial Emitters. Journal of Business Ethics, 132(2), 329–346.

[39] Wartick, S. L., & Cochran, P. L. (1985). The Evolution of the Corporate Social Performance Model. The Academy of Management Review, 10(4), 758–769.

[40] Ziegler, A., Busch, T., & Hoffmann, V. H. (2011). Disclosed corporate responses to climate change and stock performance: An international empirical analysis. Energy Economics, 33(6), 1283–1294.

AUTHORS

Titik Mildawati, STIESIA, Surabaya, Indonesia, titikmilda@gmail.com
Dian Agustia, Airlangga University, Indonesia
Noorlailie Soewarno, Airlangga University, Indonesia

Correspondence Author – Titik Mildawati, titikmilda@gmail.com.