
LITERATURE STUDY: THE ROLE OF ACCOUNTANTS IN OVERCOMING CLIMATE CHANGE ISSUES IN TEXTILE COMPANIES

KEYWORDS

Climate Change, the
Role of Accountants and
Textile Companies

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ABSTRACT

This study aims to analyze and evaluate the role of accounting services in responding to the challenges of climate change in the textile industry. The method used in this study is Riview Literature by comparing previous research. Research using the Editorial Method in this study is using qualitative methods and literature studies using the latest references obtained from Google Schoolers search results. Based on the analysis, it is concluded that accounting services can play an important role in overcoming various problems related to climate change. This role requires accountants to be involved in climate change issues in financial reporting. This means that people who use financial statements can consider climate change issues in decision making.

INTRODUCTION

In today's era, human activities and high mobility have a positive and negative impact on human life. Some positive impacts such as increasing people's living standards, advancing the country's economy, rapid technological development, and so on must be maintained by the government by controlling human activities to prevent environmental damage such as air pollution due to emissions. Large-scale air pollution can affect the world's climate which can endanger human life. The phenomenon of climate change is currently a serious problem, where the real evidence of climate change is an increase in the earth's surface temperature. The causes of climate change can come from increased emissions, the greenhouse effect, changes in the earth's orbit, and others. Subiyanto et al (2018) in their research stated that climate change has indeed occurred and threatens human survival and the environment. Climate change has contributed to an increase in disasters, droughts, floods, tornadoes, and tidal waves, which are common disasters in Indonesia.

Greenhouse gases are the cause of global warming and climate change. The world is currently experiencing the fastest warming in history. Global warming is a phenomenon of increasing global temperature from year to year due to the occurrence of the greenhouse effect caused by increased emissions of gases such as carbon dioxide (CO₂), methane (CH₄), dinitrooxide (N₂O), and chlorofluorocarbons (CFCs) (hereinafter referred to as greenhouse gas (GHG) emissions) so that solar energy is trapped in the earth's atmosphere (Riebeek 2010). The production of electrical

energy and heat through the burning of fossil fuels produces large emissions globally. Most electrical energy is still generated from burning coal, oil or gas. This combustion produces carbon dioxide and nitrous oxide, which are dangerous greenhouse gases that blanket the earth and trap the sun's heat. Only about a quarter of the world's electricity is generated from wind, solar, and other renewable energy sources. Unlike fossil fuels, renewable resources produce little or no greenhouse gas emissions or air pollution. Clearing forests for agriculture or ranching, or for other reasons, will produce emissions because felled trees release the carbon they store. About 12 million hectares of forest are destroyed each year. Because forests absorb carbon dioxide, the destruction of forests will also limit nature's ability to reduce emissions into the atmosphere. Deforestation, along with agriculture and other land-use changes, accounts for about a quarter of global greenhouse gas emissions. Along with the use of coal, oil, and gas, it can produce significant greenhouse gas emissions in everyday life. Similarly, the textile industry is one of the contributing factors to the increase in greenhouse gas emissions. The textile industry is one of the five priority industries set by the Indonesian government in the Industry 4.0 project. The project aims to strengthen Indonesia's manufacturing industry in Southeast Asia. However, efforts to control production will be hampered by environmental concerns.

The textile industry is a strategic industry in Indonesia, but it is also the second largest contributor to pollution in the world. Increasing consumer demand for textile products, as well as the increasing use of polyester, are the factors that contribute most to this increase. Serious problems in the environment The issue of environmental damage is a serious problem in the development of the textile industry. Data from the Ellen MacArthur Foundation in 2017 said the textile industry has produced greenhouse gas emissions of up to 1.2 billion tons per year. In the Blah Blah Briefing of the Textile and Apparel Sector report by cKinetics, 165 companies worldwide and across the manufacturing value chain (from fiber to products) create and influence 608 million tons of greenhouse gas emissions, equivalent to about 24% of the industry's total emissions. In Montesori (2019) states that global climate conditions indicate that atmospheric and ocean conditions are warming, therefore the presence and volume of snow and the extent of ice are decreasing dramatically. In addition to sea level rise, extreme temperatures, including heat waves, were frequent in 2000. The occurrence of tropical storms is expected to increase up to and will have a serious impact on available water resources. Related to the state of terrestrial and freshwater ecosystems where the risk of extinction is increasing, especially due to climate change coupled with other events such as habitat loss, overexploitation, and pollution.

Data from the UN Alliance for Sustainable Fashion says the fashion industry requires around 215 trillion liters of water per year. On the other hand, this industry has also had a major impact on 20 percent of wastewater pollution globally. Another problem is the large use of energy in producing textiles. The Ministry of Energy and Mineral Resources said Indonesia has great potential to produce renewable energy of 3,686 gigawatts. But so far only about 0.3% has been developed. The plan is that by 2025, Indonesia will meet around 23% of national energy needs from renewable energy. In Indonesia, until now the process to create an environmentally friendly fashion industry still faces many challenges. Without efforts from the government, private sector,

and society to change the way of life of humans who depend on fossil fuels with high carbon content, in the next few decades the condition of the tragedy of the horizon will occur (Anindita & Hamidah, 2020; Gibassier et al., 2020). Future tragedy is a condition of damage caused by climate change is irreparable because the damage is permanent and systemic so that it will affect various sides of human life. The problem of climate change occurs due to the actions of all humans so that all parties, both as individuals and groups, have responsibilities in accordance with their respective roles. The accountant profession has been known as a profession responsible for recording financial transactions and issuing financial statements of various organizations. With the problem of climate change that threatens all human life, the accounting profession cannot be passive in dealing with climate change. The accounting profession must understand the issue of climate change ranging from the causes of climate change to its impact on economic activities. The contribution of the accounting profession requires accountants to enlarge their roles and responsibilities not only as transaction recorders and issuers of financial statements, but also able to estimate the impact of a business activity on climate change and be able to disclose these impacts in financial statements.

The condition that has occurred so far is that the issue of climate change is not reflected in financial statements because the accounting profession does not consider this issue in financial statements. The absence of climate change issues in financial statements results in several things. First, various companies do not consider the impact of climate change from their production activities so that the production activities they run cannot be categorized as sustainable production. Second, by not considering the issue of climate change, product prices do not reflect the impact of ecosystem damage that triggers climate change. If the price of a product does not take into account the impact of ecosystem damage, then the price of the product will be too cheap compared to if the price of the product takes into account the impact of ecosystem damage. Third, the absence of ecosystem damage to product prices ultimately makes consumers not critical in consuming products resulting in sustainable consumption conditions not being achieved, Fourth, the absence of sustainable production and consumption makes the issue of climate change an externality that is not considered by producers and consumers. This means that neither producers nor consumers are responsible for the issue of climate change. From an accountant's perspective, some things can be done to address climate change. Financial reporting standards began to develop and included environmental aspects in financial reporting standards. Companies go various ways to gain public legitimacy. One of them is information transparency. Transparent disclosure of information will also help companies to minimize potential risks.

RESEARCH METHODS

The research method carried out is literature review through searches in various database sources on the internet using Google Scholar, science direct, BPS, etc. Literature review is a term used to refer to certain research methodologies or research and development carried out to collect and evaluate research related to a particular topic focus (Triandini, et al, 2019). The selected references are predominantly from the last 5 years. The collection of data from the database aims

to obtain the data needed by pursuing the search regarding emissions, climate change, and its relation to the role of accountants. The search strategy includes a combination of terms and keywords accounting role on climate change, the effect of emissions on climate change, climate change data for the last 5 years, textile company annual report 2022. The initial stage carried out is the selection of literature related to the purpose of this research. Read the appropriateness of the abstract and then select related references according to keywords. In addition, various supporting data were also included in this study related to climate change, the level of climate change. There are 28 annual reports from textile companies, but after going through the purpose sampling stage in accordance with the characteristics, the number of companies used in this study is 10 textile companies listed on the Indonesia Stock Exchange in 2022. The type of writing used is a literature review study that focuses on the results of writing and annual reports of companies with information related to zero carbon emissions.

The process of conducting a literature review is as follows:

- a. Search for journals by keyword, with keywords used to get journals for literature review are: climate change, zero carbon emissions, textile companies.
- b. Conduct analysis of 10 financial statements of textile companies
- c. Comparing journals from previous research reference journals by adjusting the results of the journal's research
- d. Summing up the results of analysis and comparison from reference journals that are adjusted to the research objectives of literature review
- e. Summary in the literature review of this study about what are the roles of accountants in overcoming climate change.

In relation to climate change, narrative analysis is used to provide an overview of the process of climate change and its impact on ecosystems and economies. By knowing the main causes of climate change and its impacts, several things can be described by the accounting profession to be able to contribute to overcoming climate change issues. Furthermore, identifying the contribution of the accounting profession to tackling climate change issues, research related to the impact of climate change on economic activities will also be included as material for analysis. By knowing the triggers of climate change and its impact on economic activity, the accounting profession can identify the expansion of the role and responsibility of the accounting profession in helping the government to meet the targets of environmental problems listed in the Paris Agreement.

RESULTS AND DISCUSSION

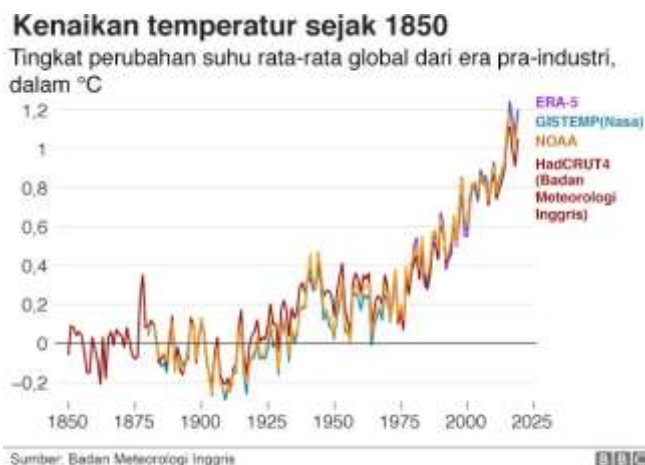
In social life, three groups with different interests interact with each other. The three groups are government, private, and community. The first group of governments has an important role in maintaining public order in a region of the country. In the economic sector, the government plays a role in maintaining a conducive climate for the implementation of production and consumption activities so that economic growth can be maintained. Various factors can cause production and consumption activities to be disrupted such as the Covid 19 outbreak that occurred a few months ago. With its authority, the government can issue various policies to minimize the negative impact of various factors that have the potential to disrupt the

production and consumption process. In addition, with its authority, the government can also direct economic activities towards certain conditions in various ways such as providing tax incentives to stimulate certain activities, and imposing taxes to reduce certain activities. For example, to protect domestic small businesses, the government can impose import taxes to reduce import activities and encourage consumption by using domestic products.

The second group is the private sector that plays a role in producing goods and services that will be consumed by the government and society. In these production activities, the private sector combines various resources in the production process that will produce products for sale. Unlike the government sector whose main focus is public services, the private sector focuses primarily on obtaining profits through efficient production processes. Because the private sector is profit-oriented, there is a tendency that the private sector will have a short-term focus on overexploiting resources to increase profits. The impact of exploitation not only harms other groups, but also harms environmental ecosystems. The third group is the community that plays a role in forming various communities to carry out activities with the aim of providing benefits to community members in particular and society in general. One form of community that exists in society is an association of community members who have the same educational and professional background.

Members in the association cooperate with each other to agree on rules related to the profession carried out so that the standard of work of the profession is achieved. Some examples of associations that aim to do the work of their members are the accountant profession whose organization is in the form of the Indonesian Institute of Accountants, and the medical profession whose organization is in the form of the Indonesian Medical Association. Because of its gradual and intergenerational nature, the adverse effects of climate change will not be felt in just one generation. This is what causes many to deny that climate change will damage ecosystems. When damage occurs in the next few decades, it will be difficult, if not impossible, to repair the damage and restore the ecosystem to its original state before the damage occurred. This situation can be regarded as a tragedy in the future. Before considering some of the impacts of climate change on economic and environmental losses and how accountants can help address climate change-related issues, the discussion will continue to focus on the causes of climate change. Knowing these causes, it is hoped that accountants, who have been acting as transaction recorders and issuers of financial statements, can expand their role to contribute to efforts to minimize the negative impacts of climate change. Climate change that occurs today is the impact of the accumulation of carbon dioxide gas (CO₂) in the atmospheric layer. CO₂ gas has the property of absorbing infrared rays found in sunlight. The ability of CO₂ gas to absorb infrared heat is the main cause of global temperature increase (Domino et al., 2015; Kumarasiri & Gunasekarage, 2017).

With this condition, the higher the accumulation of CO₂ gas in the atmospheric layer, the greater the ability to absorb heat, which will eventually cause an increase in the earth's temperature. This condition is called the greenhouse effect, where infrared heat is absorbed by CO₂ trapped between the earth and the atmosphere. Researchers say carbon emissions from human activities are the main cause of warming temperatures in recent years.



Based on the annual report, PT. Trisula International (2022) has planned a sustainable company program for company sustainability by 2027 by recycling raw materials, using alternative materials, and reducing carbon gas emissions. In addition, climate change in the last three years also needs attention because it has an impact on the stability of the company's operations. From 2020 to 2022, Trisula Company was able to survive in an unstable business climate as evidenced by an operating profit of 73,552. This proves that the company has implemented a very effective and efficient business continuity and marketing program. Furthermore, the annual report PT.Asia Pacific Fibers (2022) has also launched a sustainability program to anticipate the impacts of climate change. This was supported by the company's net profit which reached 3x in 2022 from 2021. Thus, this company has been able to compete and maintain the stability of the company's operations by implementing a sustainable company.

Continued with the annual report of PT Ever Shine Tex Tbk (2022), climate change does not rule out the possibility that the company will experience a decline in performance with the use of environmentally friendly energy in the production process and changes in marketing strategies. The company's marketing strategy that began to enter the digital realm began to bear fruit with the increasing dominance of the domestic market, although on the other hand operating profits increased and decreased but the company's operational stability was maintained. Furthermore, the annual report of PT Eratex Djaja Tbk (2022) also shows that the company has an operating profit of 2x in 2022 from 2020. This means that the climate encourages the company to continue to develop and progress in accordance with existing developments. In addition, PT Argo pantes Tbk (2022) has also implemented a sustainable company by taking into account economic aspects, social aspects of the community, and environmental aspects. Based on the company's 2022 annual report, the company earned net revenue of 16,989,850,985 from 2020 to 2022. Not only that, from the annual report of PT Polychem Indonesia Tbk (2022), the company's net profit has increased and decreased, which shows that the company is adapting to climate change that is happening today, both environmentally and environmentally.

In the annual report of PT. Indo-Rama Synthetics Tbk (2022) said that it has made efforts and achievements to reduce GHG emissions scope 1 and scope 2 in 2030, relative to 2020 levels.

Improving GHG reduction goals and developing a more comprehensive climate strategy also supports the business as a whole. These efforts are critical for companies to remain customers' preferred suppliers, exceed investor expectations, support employee engagement, attract talent, and prepare for a changing regulatory environment. The Company is committed to proactively controlling and managing emissions using modern technology and machinery, conducting periodic preventive maintenance activities to optimize energy consumption that reduces emissions from the Company's factories, to ensure that all emissions are within the parameters determined under applicable regulations. The Company has a captive power plant that uses coal raw materials. During the year, several other process optimization and resource efficiency projects were implemented to reduce energy used in production such as the use of biomass (palm shells) instead of coal as boiler fuel.

In this regard, the interconnectedness of accountants' roles to limit global warming to achieve a zero-emission economy, end dependence on fossil fuels, and reduce climate impacts on society requires a systematic and high-quality inspection and reporting system. Accountants are best positioned to monitor business performance and provide the best advice to respond to environmental changes. The role of accountants in sustainability reporting can help companies assess their ability to adapt to economic transformations. The world is anticipating changes in business supply and demand, capital allocation and expenditure, production costs, business models and governance resulting from the widespread green transition. So that accountants today must pay attention to the public interest and the quality of life of the community on a global scale in order to alleviate the problem of poverty or injustice that arises in various parts of the world.

CONCLUSION

Climate change is one of the latest information that is still not taken into account in financial statements. An important issue facing humanity today is climate change. The sustainability of a company's operations will be greatly influenced by climate change in economic activity. Meanwhile, society, corporations, and governments currently do not consider climate change as an externality. These three sectors have not predicted and understood well climate change due to these externalities.

In this case, the role of accountants can greatly assist textile companies in measuring and reporting sustainable finance which involves identifying and measuring the company's environmental impacts, such as the use of natural resources and carbon emissions. The role of accountants is needed to be able to control efforts to reduce the use of energy and raw materials to help improve the efficiency of company operations. The accounting profession, which traditionally records business transactions and produces financial statements, has more to offer with respect to the challenge of climate change it is the responsibility of the accounting profession to integrate climate change issues into financial statements so that those who use them can consider those issues when making choices. Internalization of climate change issues should ideally be embodied in the form of disclosures in financial statement notes and reflections in financial statements,

considering that these issues will have an impact on the ability of the fossil fuel energy industry and other industries to continue operating.

Disclosure in financial statement notes is allowed as a first step towards internalizing the issue of climate change. Accountants ultimately need to put in more effort during the internalization process. Due to challenges in estimating the likely impacts of climate change on the company's future operations, the process of internalizing the issue of climate change as a whole—as illustrated in the financial statements—has not yet occurred. Further research related to the role of accountants in internalizing climate change issues in financial statements can focus on methods that can be used by accountants to quantify the adverse effects of CO₂ emissions in financial statements so that with internalization the action of carrying out CO₂ emissions becomes more effective. It is no longer an action without consequences, or so-called externalities, as it is happening today.

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