

ECO-FRIENDLY ACCOUNTING: RISE OF GREEN ACCOUNTING IN INDONESIA

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accepted: 1/5/2025; revised: 3/9/2025; published: 29/9/2025

Abstract: This study aims to determine the implementation of Green Accounting in Indonesia and to understand its relationship with company performance. The research employs a literature review method, which involves collecting, analyzing, and synthesizing information from various sources to develop a comprehensive understanding of the topic. The objects of this study are three journal articles: Green Accounting Era 4.0 Towards Society 5.0, Analysis of Green Accounting Implementation on the Financial Performance of PT Unilever Indonesia, and Green Accounting: A Review Paper. The findings reveal that Green Accounting plays an important role in improving company performance by integrating environmental and social aspects into financial reporting. The adoption of Green Accounting encourages companies to operate sustainably and be more accountable to stakeholders. Furthermore, the study highlights changes in the accountant's role in the era of the Industrial Revolution 4.0 and Society 5.0, where technology drives transformation in accounting practices. Accountants are required to enhance their competencies, particularly in adapting to technological advancements that support environmental sustainability and corporate performance. In conclusion, Green Accounting not only contributes to environmental protection but also improves transparency, efficiency, and the long-term value of companies in the digital era.

Keywords: Environmental Performance, Implementation, Green Accounting in Indonesia

INTRODUCTION

Humans, as beings who rely heavily on nature, seek their basic wants in all of the perfection that God provided in nature. These needs, be it clothing, food, or shelter, motivate humans to utilize nature and existing resources, although often done excessively without considering the sustainability of nature. Humans form companies to manage and utilize natural resources to produce products the community can use.

However, sometimes, these companies forget their responsibility to maintain the sustainability of nature for future generations. The question arises: to what extent do humans depend on nature? While nature, does it also depend on humans? The answer is clear: humans depend greatly on nature because almost

all current needs come from natural resources. On the other hand, nature does not depend on humans because nature can function independently according to the purpose of its creation, even without human intervention.

The importance of environmental sustainability is also reflected in the company's commitment, which is manifested through the accounting system, especially Green Accounting. The primary assumption of green accounting is to internalize environmental costs that were previously externalized, allowing firms to make better informed decisions and accept responsibility for their environmental effect (Riyadh et al., 2020). Implementing Green Accounting and its impact on firm performance remains a concern.

One of the main contributors to global warming is the industrial sector. In response to the impact of global warming, countries that care about the environment have held meetings to discuss this problem. The decision was taken to reduce excessive carbon emissions, especially in the industrial sector. Environmental accounting, is one of the tools to reveal whether companies are implementing environmental policies in their operations.

The environmental aspect is sensitive because it can affect the company's sustainability (Ria Panggabean & Deviarti, 2012). Firms that have implemented effective green accounting systems have proven greater operational efficiency, higher regulatory compliance, and stronger stakeholder connections, all of which led to increased financial success (Tantua, 2023). From the increasing impact caused by corporate activities on environmental issues and nature conservation, in this case, the accounting field plays a role in environmental conservation efforts through voluntary disclosure in its financial statements related to environmental costs. The accounting system that discloses accounts related to environmental costs is called green accounting or environmental accounting. Accounting is an instrument that helps the interests of investors and creditors and potential investors and creditors in decision-making.

Therefore, this study was conducted to answer questions about implementing Green Accounting in Indonesia and how it relates to company performance. This study aims to determine the implementation of Green Accounting in Indonesia and understand

the relationship between Green Accounting and company performance.

LITERATURE REVIEW

According to Kusumaningtias (2013), the concept of environmental accounting, also known as green accounting, began to develop in Europe in the 1970s. This development was triggered by pressure from non-governmental institutions and increased public environmental awareness. This pressure encourages companies to focus on industrial activities for business profit alone and implement environmental management.

Cohen and Robbins in Kusumaningtias (2013) define green accounting or environmental accounting as "a style of accounting that includes the indirect costs and benefits of economic activities, such as the environmental impacts and health consequences of business decisions and plans." In other words, environmental accounting involves calculating the costs and benefits that are not directly related to economic activities, including the environmental effects and health impacts of business decisions and plans.

Bell and Lehman in Kusumaningtias (2013) stated that environmental accounting, or what is known as green accounting, has begun to develop in Europe since the 1970s. This emerged as a response to pressure from non-governmental organizations and increasing public environmental awareness. This pressure encourages companies to focus on industrial activities for business profit alone and implement environmental management.

At the Rio+20 Summit in Rio de Janeiro on June 20-22, 2012, which was the Earth Summit to commemorate the

20th anniversary of the June 1992 Earth Summit, world leaders, through the document "The Future We Want," agreed to implement the concept of "Green Economy" as a new paradigm in environmentally friendly economic development. The goal is to realize the vision of Sustainable Development and Poverty Elimination.

From the explanation above, it can be concluded that Green Accounting is an accounting system used by companies that include costs related to the sustainability of nature or the environment. This system also assesses the accounting treatment of these costs and analyzes whether it has a positive or negative impact on the company.

Several theories related to Green Accounting exist, including Legitimacy Theory and Stakeholder Theory. Legitimacy Theory states that legitimacy is the perception that an entity's actions follow socially developed norms, values, beliefs, and definitions. Stakeholder Theory emphasizes that companies have relationships with various stakeholder groups that influence and are influenced by company decisions.

Environmental accounting is the prevention, reduction, and/or avoidance of impacts on the environment, moving from several opportunities, starting from the remediation of events that cause disasters due to these activities. The next question is what can be achieved by companies by implementing Green Accounting related to company performance (in general in all countries)?

Companies can implement Green Accounting voluntarily by disclosing environmental information if management consistently does so. Although a company's primary goal is to

maximize business wealth or survive financially (corporate sustainability), implementing Green Accounting remains important because today's customers demand that companies show their concern for the environment.

Alexopoulos et al. (2011) stated that empirical findings show that improving environmental performance can be a potential source of competitive advantage. This can lead to more efficient processes, increased productivity, lower compliance costs, and new market opportunities. Therefore, implementing environmental accounting in a company's accounting system is important.

According to (Suratno et al., 2007), a company's environmental performance focuses on efforts to create a good environment. A company's environmental performance includes activities to preserve the environment and reduce negative impacts arising from company activities. A company performance rating assessment program, such as PROPER in Indonesia, can be an option to measure a company's environmental performance. PROPER, an environmental rating program from the Ministry of Environment, uses colors to indicate the company's performance rating to the public, from the best (gold, green, blue) to the worst (red, black).

PROPER assessment aspects include compliance with regulations on water pollution control, air pollution control, B3 waste control, AMDAL, and marine pollution control. These provisions are mandatory, and companies that comply with these regulations can get a blue rating. Conversely, companies that do not comply with these provisions will get a red or black rating, depending on the level of non-compliance. Based on Regulation Number 6 of 2013 concerning the Company

Performance Rating Assessment Program in Environmental Management, companies with a black rating will be directly directed to the law enforcement process, while companies with a red rating will be included in coaching to improve environmental management performance (Fitria et al., 2017).

RESEARCH METHODS

This Literature review or library research method is a part of research or scientific work that details and evaluates literature, research, or articles relevant to the topic of the research or work. It involves collecting, analyzing, and synthesizing information from multiple sources to build a solid foundation of knowledge about the research topic. Library research simultaneously utilizes library sources to collect research data. It strictly limits its activities to materials available in the library without requiring field research (Mestika, 2004).

This study's data sources are primary and secondary. Primary data sources are materials or documents submitted or described by individuals or parties. If the author includes a small or large part of the research results in the writing, then that part is still referred to as a primary source. Meanwhile, secondary data sources are data obtained by researchers from second parties and not original data from first parties in the field (Mestika, 2004).

The data collection method used in this study is a literature review, where data is collected, analyzed, and concluded to obtain answers to the researcher's problem formulation. These data are analyzed and discussed in sub-chapters to conclude the existing problem formulation. The data comes from books,

journals, and other literature relevant to the research topic.

RESULTS AND DISCUSSION

A company's performance can be evaluated through its financial outcomes; however, many firms neglect the principle of profit maximization due to operational practices that disregard environmental responsibility. Their reluctance to adopt green accounting, which is often perceived as costly, leads them to prioritize financial gain over environmental sustainability. Consequently, growing public and governmental concern has prompted Indonesia's Ministry of Environment (KLH) to introduce the Company Performance Rating Assessment Program (PROPER) to enhance corporate environmental accountability. In this context, green accounting plays a crucial role by integrating environmental benefits and costs into financial decision-making, providing insights into how environmental conservation supports sustainable economic development.

The implementation of green accounting marks the first step for companies in addressing environmental issues. Originating from environmental accounting practices focused on accountability to management and investors, it has evolved into a broader framework influenced by stakeholders and society. Emphasizing the resource life cycle, green accounting encourages cooperation among corporations, communities, and governments to manage environmental impacts. Its development was shaped by global movements such as the publication of *Limit to Growth*, the 1977 European oil crisis, and subsequent national initiatives in France and Japan. Overall, social and environmental conditions worldwide have driven the advancement of green accounting

as a key element of sustainable business practices.

Literature Review on Literature Review: Green Accounting Era 4.0 Towards Society 5.0

Based on the results of research conducted by Vero Deswanto, it can be explained that accounting principles that are integrated with the concept of green accounting are mapped and compiled to classify transaction activities as an accounting concept to ensure that transactions do not harm the environment, as well as controlling transaction activities to be more effective and efficient, for example, transaction classification and accounting recognition are as follows:

- a. Pollution Prevention Costs: Costs incurred to prevent air and water pollution along with water treatment facilities and other activities.
- b. Environmental Protection Costs: Costs of energy saving measures and costs of global warming reduction measures.
- c. Resource Recycling Costs: Costs incurred for waste reduction and disposal as well as for water conservation, rainwater use and other measures aimed at efficient resource use.
- d. Environmental Restoration Costs: Costs of environmental restoration operations (removing soil and groundwater pollution, environmental compensation, etc.)
- e. Management Costs/Administration Costs: Environmental protection costs related to management including environmental promotion activities and costs related to obtaining and maintaining ISO 14001 certification.
- f. Social Promotion Activity Costs: environmental protection costs derived

from participation in social activities such as participation in organizations related to environmental conservation and so on.

- g. Research and Development Costs: Environmental protection costs for research and development activities and environmental solution business activity costs (green product/environmental technology design and development costs, environmental solution business costs, others) etc.

The application of accounting concepts integrated with the green accounting concept, by paying attention to several differences between conventional accounting and accounting with the green accounting concept, in table 1, as follows:

Table 1. Comparison of Conventional Accounting with Green Accounting

	<u>Conventional Accounting</u>	<u>Green Accounting</u>
Perspective	Economic (financial) aspects of the company	The relationship between economy and environment
Tasks and Functions	Information explaining the general economic situation; Cost management	Addition of information related to the environment, environmental liability aspects and environmental costs
Information Elements	Financial accounting, Management Accounting	Environmental financial accounting; Internal ecological accounting, and Environmental management accounting; Internal ecological accounting

Tools	Financial and accounting reports, internal reports, other financial reports	(Addition of) environmental reports
Methodology	Valuation procedures, Cost Accounting	Environmental performance evaluation, Life cycle analysis, Environmental cost savings analysis
Value Units	Acquisition value, financial units (excluding inventory)	Financial units and natural units

Source: Processed Data, 2025

The explanation above summarizes green accounting as a tool for measuring costs and investments related to or impacting environmental conservation. Some of the objectives of implementing green accounting are:

- a. Assessing environmental costs and benefits
- b. To separate and classify various costs or investments that impact the environment

To link physical resources with environmental, financial information in financial terms.

Technology Optimization in the Implementation of Green Accounting Era 4.0 Towards the Era of Society 5.0

In their journal *Sustainable Development Goals 2030: The Impact of Sophisticated Technology Towards Green Accounting to Improve the Quality of the Company*, Deniswara, Mulyawan, and

Kesuma (2021) emphasize the need for accounting planning related to environmental and technological transaction management in the Industrial Revolution 4.0 era. Technology serves as a key driver that enables companies to operate more efficiently through three main pillars: humans, the environment, and welfare. Green accounting plays an essential role in aligning technological functions with environmental sustainability by ensuring that technological advancements enhance productivity without compromising ecological balance. When implemented effectively, technology integration with green accounting can strengthen a company's reputation, value, and long-term sustainability.

The evolution toward *Society 5.0* marks a new stage where technology and humans coexist harmoniously, extending beyond information tools to become part of daily human activities. In this era, green accounting adopts more advanced technologies to manage environmental processes practically and efficiently, aiming to achieve better environmental risk control and stability. By utilizing and optimizing technological innovations, the application of green accounting in *Society 5.0* becomes more effective in promoting sustainable environmental management and contributing to the creation of a better, more balanced ecosystem.

Empowerment of Enterprise Resource Planning (ERP) Technology in Green Accounting Implementation

- a) Enterprise Resource Planning (ERP) is an integrated management system of key business processes and real-time technology capabilities. It is usually a series of integrated applications that support organizations in collecting, storing, managing, and analyzing data

- from many business activities. ERP systems can be locally or cloud-based.
- b) A company's success is determined based on a plan outlined as a reference for generating profits and achieving company goals where the company can implement strategic steps through ERP technology (Law & Ngai, 2007).
 - c) Strategic planning can help allocate costs, especially for spending on activities incurred by the company, such as environmental costs, improving environmental conditions, and improving people's living standards through CSR programs, blood donations, and donations that can be targeted through ERP programs that have been proven capable of automatic data integration in the accounting division (Law & Ngai, 2007).

Empowerment of Big Data Technology in Green Accounting Implementation

- a) Big Data is a high-volume, high-speed, and/or diverse information asset as a form of innovative, cost-effective information processing, which enables increased insight, decision-making, and process automation.
- b) Big data technology that can help companies evaluate and generate information, such as R-Programming, which helps verify data presented in graphs and statistics. This helps companies find the information needed to develop the surrounding environment and foster communities through education.
- c) MacFeely argues that the use of Big Data can improve environmental development activities that focus on greening and human cultivation

through Corporate Social Responsibility programs in areas that technology has not reached.

Empowerment of Blockchain Technology in the Implementation of Green Accounting

- a) Blockchain is a shared ledger that cannot be changed. It facilitates the process of recording transactions and tracing transactions and assets in a business network, both tangible and intangible assets (intellectual property, patents, copyrights, brands).
- b) Blockchain can provide a source of data in the form of expenses made by the company, especially to increase awareness of environmental conditions and help those in need, such as improving education through scholarships, avoiding littering, ensuring clean water, harmonizing the environment, and paying attention to natural resources.

Literature Review on Literature Review: Analysis of Green Accounting Implementation on PT Unilever Indonesia's Financial Performance

General Description of Research Object

Based on the results of Sigit Sukmono's research, it can be explained that since December 5, 1933, Unilever Indonesia has grown into one of the leading Fast Moving Consumer Goods (FMCG) companies in Indonesia that always accompanies people's daily lives through various products, such as Pepsodent, Lux, Lifebuoy, Dove, Sunsilk, Clear, Rexona, Vaseline, Rinso, Molto, Sunlight, Wall's, Royco, Bango, and many more. Unilever Indonesia first offered its shares to the public in 1981 and has been listed on the Indonesia Stock Exchange since January 11, 1982.

Research Result Data

Based on Sigit Sukmono’s research, data from the 2019–2021 annual financial report on Corporate Social Responsibility(CSR) of PT Unilever Indonesia Tbk show the company’s strong commitment to sustainability through its global strategy transformation, *Unilever Compass*. This initiative aims to create positive value and benefits for all stakeholders by ensuring that Unilever’s presence and products contribute meaningfully to society. Since 2014, the company has implemented CSR programs in the areas of economy, environment, health, and education as part of its effort to support the Sustainable Development Goals (SDGs).

These programs reflect Unilever’s dedication to long-term sustainability, emphasizing collaboration, guidance, and community empowerment to achieve shared goals. The company has also invested significantly in green accounting practices, resulting in notable achievements such as a 32% reduction in energy intensity, a 60% reduction in greenhouse gas emissions, the establishment of 3,859 waste banks across 37 districts and 12 provinces (representing 40% of waste banks registered with the Ministry of Environment and Forestry), a reduction of 2,824 tons of waste, and the management of 12,487 tons of inorganic waste through waste banks.

PT Unilever Indonesia Tbk has carried out diverse Corporate Social Responsibility (CSR) programs in the social, health, environmental, and economic fields. In collaboration with the Indonesian Mosque Council (DMI) and local NGOs, the company’s Wipol, Superpell, and Vixal brands implemented the Mosque Cleaning Program in 2019,

successfully cleaning 2,000 mosques and 129 Islamic boarding school mosques across 13 cities in Java. The Pepsodent Dental Expert Center (PDEC) also provided free dental education and check-ups, serving over 30,000 visitors and hosting more than 850 school and community visits. In 2020, Unilever enhanced its sustainable economic initiatives through employee training, small trader empowerment, and waste bank programs, while distributing food, hygiene products, and medical devices via the National Disaster Management Agency (BNPB) and offering COVID-19 prevention education. In 2021, the company’s CSR efforts continued to focus on supporting the government in mitigating the effects of the pandemic and safeguarding public health.

Table 2. CSR Activities of PT Unilever Indonesia Tbk in 2021

No	Activitie	Description
1.	s	2500 small-scale retailers From Aceh to Papua participate in the “Swalayan Kita” program which aims to encourage the potential and support the growth of small-scale retailers through technology
2.	Economi c Aspect	3,800 Tons of plastic content reduction in Unilever product packaging in 2021. 24,500 Post-consumer plastic waste collected through Waste Banks developed in 45 cities/regencies and 11 provinces in Indonesia throughout 2021.
3.	Environ mental Aspect	375,000 Product assistance consisting of personal hygiene, sanitation, and food products with a total value of IDR 4.6 billion. 1,300 Vaccines for scavengers.
4.	Social Aspect	1,423 Refrigerator cabinets for vaccines with a value of 19.7 billion. 141,000 product assistance for vaccination centers and volunteers consisting of Lifebuoy, Buavita, and Royco. Total

Source: Processed Data, 2025

In 2021, for sustainable economic programs, PT Unilever Indonesia Tbk will focus on developing the potential of small-scale retailers. In the environmental aspect, sustainable activities that are always carried out every year by PT Unilever Indonesia Tbk are waste banks. In the social aspect, PT Unilever Tbk assists in the form of products, vaccines, and coolers for vaccines. In health, PT Unilever Indonesia Tbk provides educational services on health, nutrition, sanitation, and women's empowerment. In 2021, the focus is on helping the government recover from the COVID-19 pandemic (PT Unilever Indonesia Tbk 2021).

Summary of Research Results

After conducting this research, it can be concluded that:

Table 3. Total costs of PT Unilever Indonesia Tbk in 2019 – 2021

No.	Year	Total cost
1.	2019	Rp 44.721.688.000
2.	2020	Rp 200.000.000.000
3.	2021	Rp 27.700.000.000

Source: Processed Data, 2025

From 2019 to 2021, PT Unilever Indonesia Tbk consistently allocated substantial funds to support its sustainable programs aligned with Corporate Social Responsibility (CSR) principles and ISO 26000 standards. In 2019, the company spent IDR 44,721,688,000 on mosque cleaning programs, free dental education and check-ups, and health education for mothers and toddlers. In 2020, Unilever allocated IDR 200,000,000,000 to support small traders, distribute food and hygiene

products to medical personnel, and provide health equipment through the National Disaster Management Agency (BNPB). In 2021, the company spent IDR 27,700,000,000 to empower small-scale retailers, offer Unilever products, vaccines, and vaccine coolers, and deliver educational services on health, nutrition, sanitation, and women's empowerment. Overall, Unilever's total investment in sustainable programs over the three years reached IDR 284,842,399,000, demonstrating its strong commitment to long-term sustainability and social responsibility.

Green Accounting a Review Paper

Based on Manoj Yadaf's research in the Green Accounting literature review in India, it can be explained that:

Implications Of Green Accounting in The Economy

Green accounting promotes economic welfare by revealing the environmental impact of business activities and encouraging compensatory actions. Accordingly, green accounting plays a critical role in determining the company's environmental impact through a variety of channels (Somjai et al., 2020). It emphasizes corporate accountability for past, present, and future environmental effects. Quantitative analysis helps businesses measure environmental performance and take proactive steps to reduce negative impacts.

Environmental Accounting Practices In India

- a) The first announcement regarding green accounting was made in 1991.
- b) The Ministry of Environment and Forests has proposed that "Every company shall, in its Board Report, disclose briefly the

details of the steps taken or proposed to be taken towards adoption of clean technology for pollution prevention, waste minimization, recycling and utilization of waste, pollution control measures, investment in environmental protection and the impact of these steps on waste reduction, conservation of water and other resources."

- c) The Ministry of Environment and Forests has issued various instructions for preparing environmental reports.
- d) In this country, obtaining environmental clearance is mandatory for all new projects concerning the Ministry of Environment and Forests and the environment departments of the State Governments concerned. Various guidelines exist in this regard, and all such projects are expected to obtain environmental and anti-pollution clearance before being set up.

It can be observed through their reports that most of the following information is disclosed. Types of devices installed to control pollution

1. Type of devices installed for controlling pollution
2. Steps taken for energy conservation.
3. Optimum utilization of resources.
4. Steps for decomposition of waste.
5. Steps taken to improve the quality of products.

In this environmental statement, the industry concerned is required to provide information on:

- a. Water and raw material consumption
- b. Pollution generated
- c. Impact of pollution control measures on conservation of natural resources.
- d. Nature of solid and hazardous waste generated and disposal practices adopted
- e. Measures taken for environmental protection
- F. Steps taken to popularize

the benefits of environmental accounting and reporting among the corporate sector.

Environmental Viewpoint Biodiversity Profile of India

India occupies 2.4% of the world's land area and hosts 7% of global biodiversity, including 8% of mammals, 13% of birds, 6% of reptiles, 4% of amphibians, 12% of fish and 6% of flowering plants. India is one of the 12 most biodiverse regions in the world, the others being Bolivia, Brazil, China, Colombia, Ecuador, Indonesia, Mexico, Peru, South Africa, the US and Venezuela.

In addition, India also has many endemic plant and vertebrate species. Among plants, species endemism is estimated at 33% (BSI, 1983). Endemism among mammals and birds is relatively low.

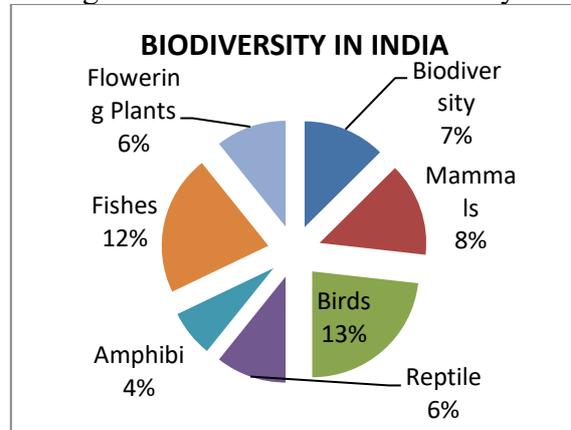


Figure 1. Biodiversity in India

Source: Processed Data, 2025

India's biodiversity is rapidly declining, with 39 mammal, 72 bird, and 1336 plant species considered vulnerable and endangered. Factors threatening species and genetic diversity include habitat destruction, over-exploitation, pollution, exotic species introduction, community imbalance, epidemics, floods, droughts, and cyclones. The Andaman and Nicobar Islands

contribute at least 220 species to India's endemic flora.

Green Accounting Practices In India

Over the past decade, companies have recognized the importance of environmental reporting, leading to a rise in organizations disclosing their environmental performance. Compliance with national and international standards enhances credibility and transparency. However, actual implementation remains weak, with limited environmental information typically included in annual reports, despite industry leaders' awareness of environmental issues and reporting requirements.

According to Jond Seo Choi, research studies have examined the extent to which companies produce social information, of which environmental information would be a part. Common themes that emerge from this include the following.

- a. The proportion of companies disclosing the extent of such disclosures is small, and the amount is low.
- b. There is some variation in disclosure over time between countries and industries.
- c. There is a definite size effect, with larger companies more likely to disclose than smaller ones.
- d. Very little disclosure would qualify as information by any standard criteria, and very little disclosure would contain figures, financial or otherwise.

It was also revealed that most companies disclosed environmental information in a descriptive rather than financial form, i.e., no calculation was made for the degradation of natural capital while calculating the company's profit.

As such, many studies have been conducted and completed by researchers in the past. However, this initial survey of available literature reveals that no work has focused on evaluating Environmental Accounting Practices by Indian Companies.

In Indonesia, the implementation of Green Accounting is carried out with a transaction classification approach and accounting recognition as follows:

- a. **Pollution Prevention Costs:** The costs incurred to prevent air and water pollution, including water treatment facilities and other activities.
- b. **Environmental Protection Costs:** Costs of energy saving measures and global warming reduction measures.
- c. **Resource Recycling Costs:** Costs incurred for waste reduction and disposal, water conservation, rainwater use, and other measures aimed at efficient resource use.
- d. **Environmental Restoration Costs:** Costs of environmental restoration operations (removing soil and groundwater pollution, environmental compensation, etc.)
- e. **Management Costs/Management Costs:** Environmental protection costs related to management, including environmental promotion activities and costs related to obtaining and maintaining ISO 14001 certification.
- f. **Social Promotion Activity Costs:** environmental protection costs derived from participation in social activities, such as organizations related to environmental conservation.
- g. **Research and Development Costs:** Environmental protection costs for research and development activities and environmental solution business activity costs (green product/environmental technology design and development

costs, environmental solution business costs, others), etc.

The transition to a green enterprise requires companies to handle waste and meet societal demands for environmentally friendly products. Companies increase productivity and efficiency through modern technology, cost reduction, and mergers. Environmental accounting is a modern social responsibility that helps companies improve environmental performance, comply with regulations, and increase efficiency (Rahman & Islam, 2023). Scholars and professionals have paid close attention to the relationship between environmental rules, industrial adaptation, and strategic environmental management (Xing et al., 2023).

It encourages managers to reduce environmental costs and influences future decisions. Green accounting emerged in Europe in the 1970s, focusing on evaluating environmental activities in terms of costs and economic benefits, and creating environmental protection impacts.

Green accounting is an accounting system that measures an organization's or business's environmental impact. This information can be used to assess the organization's environmental performance and to make more sustainable decisions. Culture plays an important role in the development of green accounting (Layn, 2024). A culture that supports sustainability will encourage organizations to adopt green accounting practices. SEEC stands for Socio-Economic Environmental Accounting. SEEC is an accounting approach incorporating social and environmental factors into financial reporting. SEEC can help organizations measure their overall impact on society and the environment.

Environmental accounting is often ineffective in industries due to lack of

awareness and prioritization. Companies must manage product waste, including hazardous materials, to prevent environmental harm. Socially responsible companies should address operational waste, including special costs in financial accounting. Implementing a quality management and environmental system reflects a commitment to maintaining quality, health, safety, and the environment, ensuring production processes do not cause pollution.

Transaction classification and accounting recognition are important and inseparable parts of the company's sustainability. Costs related to the environment are the primary focus of attention so that major environmental problems do not occur and are not appropriately managed.

The economic gap between companies and society can damage a company's image, while implementing Corporate Social Responsibility (CSR) helps build a positive reputation, trust, and loyalty, supporting long-term business sustainability. Many Indonesian and multinational companies have adopted CSR as a form of corporate responsibility to achieve sustainable profitability.

PT Unilever Indonesia is committed to The implementation of Good Corporate Governance (GCG) in Indonesia encourages companies to manage their environmental impacts responsibly, especially as the country's investment-grade status requires adherence to International Financial Reporting Standards (IFRS). This convergence expands financial disclosures and increases stakeholder pressure for greater CSR transparency. Unilever, through its Sustainable Living Plan, demonstrates this by focusing on improving health, reducing environmental impacts, and enhancing global well-being. Its governance

emphasizes inclusivity, materiality, and responsiveness while maintaining integrity through ethical standards for suppliers and business practices.

CONCLUSION AND SUGGESTION

The alignment of green accounting technology in the 5.0 era needs to be prepared and planned, starting with projecting the impact of technological growth on changes in the company's operational patterns that do not only focus on profitability but, more importantly, how technology can benefit from both the economic and environmental aspects that provide sustainable and long-term economic benefits. Changes in the revolution of the role of accountants and their relationship to the implementation of green accounting in the 4.0 era towards society 5.0 are as follows:

- a. Green accounting is one of the accounting processes that not only processes historical transaction data but prioritizes projections based on statistical data processing results;
- b. Expansion of accounting functions, not limited to delivering financial report information. Green accounting is an accounting process that is managed systematically and integrated to produce quality reports beyond financial information;
- c. Changes in the focus of accounting management, which was previously on the concept of transaction bookkeeping management (book keeper), through the implementation of green accounting as evidence of the Expansion of the role of accounting in the role of the analyzer function on financial impacts that are more informative preventive in the aspect of environmental risk control.

The Corporate Social Responsibility (CSR) activities of PT Unilever Indonesia Tbk based on Green Accounting from 2019 to 2021 have been well implemented in line with ISO 26000 guidelines, reflecting the company's strong commitment to community welfare, although some expenditure data remain incomplete. The application of Green Accounting significantly influences company performance by integrating environmental protection into financial management. While environmental accounting in some countries, such as India, is still at an early stage and often limited to regulatory compliance, it highlights the importance of establishing clear environmental policies, pollution control measures, and transparent reporting to support sustainable development.

Overall, the main goal of green accounting is to provide comprehensive information on a company's operations concerning environmental protection by identifying, measuring, and analyzing resource use and related costs, ensuring that businesses operate responsibly without neglecting their social and ecological impacts.

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