

**HAVE COMPANIES IN INDONESIA DISCLOSE ENVIRONMENTAL ACCOUNTING?**

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doi:10.22306/atec.v8i2.146

Received: 05 May 2022; Revised: 27 May 2022; Accepted: 15 June 2022

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**Abstract:** Environmental accounting is an effort to minimize the negative impact on the environment of the company's operational activities, both monetary and non-monetary. This effort is carried out by identifying the environmental impacts of the company's operations and the costs of handling these impacts. There have been several regulations referring environmental accounting disclosures, but the application of these disclosures is still voluntary. The investigation focuses on the importance of environmental accounting disclosures, i.e. to find out whether companies in Indonesia have disclosed environmental problems from their operations. The data is supported by the annual reports of companies listed on the Indonesia Stock Exchange (IDX) in 2021 in all industries. Methods of data analysis using scoring techniques or assessments using the Frictional scoring method and descriptive analysis. We found that the average disclosure in each aspect of the assessment model Fekrat shows zero and one. The other side shows that most of the companies sampled in this study have not made environmental disclosures. The contribution of this finding can serve as a basis for policymakers in Indonesia to assess the effectiveness of related regulations in environmental protection efforts. Apart from that, other facts also show the need for the legitimacy of the IDX as a capital market operator to require companies to disclose environmental accounting in their annual reports. The professional practical and research implications for the future relative also to the concept of dealing with, changing, and significantly implementing consortia in sustainable environmental accounting mechanism.

**1 Introduction**

The main purpose of accounting is to provide information related to business continuity for company stakeholders, both management and capital owners (investors and creditors). The information is summarized in the financial statements consisting of income statements, changes in equity, financial position, and cash flow, and accompanying notes [1].

The information in these reports is quantitative and focuses on information about the company's ability to survive and make a profit. Meanwhile, in carrying out its operations, there are both social and environmental impacts that must be disclosed by the company. Therefore, the accounting must be able to answer the needs of information regarding the impact of these, one of which related to the socio-ecological impact resulting from business activities [2].

Environmental accounting is an effort to minimize the negative impact on the environment from the company's operational activities both monetary and non-monetary. Environmental accounting is also related to the sustainability report. Sustainability reports are reports produced by business organizations to disclose related environmental, social, and good governance performance [3]. The publication of sustainability reports uses the Global Reporting Initiative (GRI) standard established by the United Nations Environment Program (UNEP), the Coalition for Environmentally Responsible Economies (CERES), and the Tellus Institute in 2000. GRI is a standard in the practice of publicly reporting organizations related to the impact of economic, social, and environmental. The existence of GRI aims at greater organizational transparency and accountability.

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In Indonesia, the government has issued Government Regulation (PP) number 47 of 2012 concerning the “Implementation of Corporate Social and Environmental Responsibility” in April 2020. With this regulation, the obligations of business organizations have serious consequences on the recognition, measurement, recording, presentation, and disclosure of accounting related to environmental aspects [4]. Another rule is Regulation of the Financial Services Authority (OJK) No. 51/POJK.03/2017 concerning the “Implementation of Sustainable Finance for Financial Services Institutions, Issuers, and Public Companies” [5]. Even though there are rules, basically sustainability reports are voluntary. Based on the OJK report in 2021, there is almost nine percent of companies listed on the Indonesia Stock Exchange (IDX) have published sustainability reports.

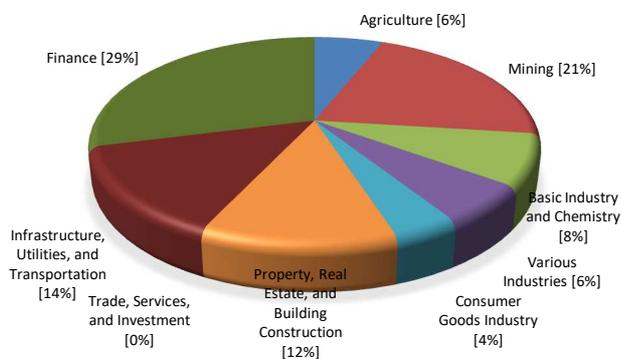


Figure 1 Percentage of sustainability report publishers by sector. Source: [6]

Figure 1 summary the finance sector has the highest percentage of other industries, namely by 29%. The high level of issuance of sustainability reports in the financial sector is a form of compliance from financial institutions that are directly overseen by the OJK based on the regulations and guidelines for the sustainability report from OJK. However, the high issuance of sustainable reporting (SR) in the financial sector does not directly indicate the high disclosure of environmental issues, but only shows social responsibility. The next ranking is in the mining sector whose operations directly utilize natural resources. This is in line with PP number 47 of 2012 which requires every business activity that directly utilizes natural resources to disclose environmental accounting. Besides, in 2016 four mining companies made sustainability reports with more than 50% disclosure under GRI guidelines [7].

However, when compared with several countries in the world, such as countries in America, Europe, and Asia-Pacific, until 2019 Indonesia still occupies a position with a low average percentage of SR disclosure [8]. SR disclosure in Indonesia is still at 9% above Pakistan, Poland, and Russia. The countries with the highest disclosure rates are Japan, America, the United Kingdom, and China. The sector with the highest average SR disclosure is in the energy and utility sector which is a

business that directly utilizes natural resources. Furthermore, Singer [8] also explain two main factors that encourage the disclosure of SR are the presence of pressure from stakeholders and the existence of regulations that require SR accounting. This is in line with the results of research by Liu [9] which shows that the steel industry in China has problems in disclosing environmental accounting because there are no applicable environmental accounting standards, strict rules, and supervision of the company. Likewise, according to Monteiro & Guzmán [10] during 2002-2004 environmental accounting disclosures in companies in Portugal increased after the existence of new accounting rules and standards.

Based on the fact that environmental accounting disclosure is still very low in Indonesia and the existence of regulations related to environmental accounting in Indonesia, this study aims to identify the extent to which companies in Indonesia disclose environmental issues from their operations. This research is a continuation of Fadillah & Djaddang [11] research which examines the disclosure of environmental accounting in ASEAN countries. Research on environmental accounting disclosures has been done a lot, but no one has analyzed the substance of the disclosure made by the company [12].

In this study, we trying to assess the extent of environmental disclosure aspects in sustainable reports on Indonesian industries. The assessment is based on the average disclosure of environmental aspects with a scoring model from Fekrat. This study involved eight industrial sectors listed on the Indonesia Stock Exchange (IDX). To simplify the research results table, each industry is labeled such as consumer goods, agriculture, mining, various industries, property, real estate, and building construction, basic and chemical, infrastructure, utilities, and transportation, and trade, services, and investment.

The value of the originality of the study is an important part of an evaluation for further researchers. Weaknesses must be highlighted against companies that have only prioritized business aspects so that they must also understand problems that are relevant to the environment and social issues. That way, business prospects can have a systematic impact through deferred burdens on companies willing to spend financially on environmental and social aspects.

The study’s contribution focused on two elements covering practical and academic. Practically, companies that are members of IDX need operational standards that highlight reports related to environmental accounting. This intended so that policies that are oriented towards environmental improvement (such as CSR) channeled through a competently planned road map. On the academic side, the output of this study serves as a conceptual reference for exploring environmental effects caused by company activities. At least, they can reduce this to a clear standard in order to minimize risk.

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**1.1 The urgency of CSR**

Now is the era of the open society that increasingly pays attention to the environment, both social and environmental. Associated with these things appear the term Corporate Social Responsibility (CSR), which develops and began fame in 1998, from the book by John Elkington [13]. The book discusses three important elements to achieve sustainable development, i.e. economic growth, environmental protection, and social equity, or better known as profit, planet, and people [14]. With the development of CSR and the inclusion of a green company era, companies must incorporate elements of environmental impact into their financial statements [15]. The report is part of a form of CSR implementation, commonly called environmental accounting. Environmental accounting is born because environmental problems develop rapidly, from pollution, forest preservation, population growth, to the depletion of natural resources. Also, environmental problems arise related to energy supply, biodiversity, species extinction, climate change, and other things [16].

The emergence of ideas about CSR and its elements is related to the theory of legitimacy. According to the theory, there needs to be an adjustment between the operational activities of business organizations with the values held by the community, one of which is not disturbing environmental aspects that can harm people's lives [17]. When there is no match between these two things, the position of the two parties can be threatened. An example of the case is the Lapindo mudflow in 2006 caused a large impact on several aspects of community life, such as the existence of a pool with a height of up to six meters in the settlement, victims affected more than 8,200 people, houses damaged approximately 1,683 units, agriculture and plantation areas were damaged approximately 200 ha, more than fifteen factories stopped production activities and laid off more than 1,873 people, damaged educational facilities, damaged infrastructure facilities and infrastructure in the form of electricity and telephone networks, and obstruction of the Malang-Surabaya toll road that affects production activities in the Ngoro (Mojokerto) and Pasuruan areas [18]. As the company responsible for the Lapindo mud case, Lapindo Brantas Inc. must have incurred a loss of IDR 3.8 trillion to compensate for the affected people's land.

**1.2 Environmental accounting**

Environmental accounting is very important as a form of transparency and accountability to the stakeholders of each company's activities to prevent, reduce, and stop environmental impacts that are happening or that might potentially occur in the future [17]. Environmental accounting can be interpreted as incorporating elements of

environmental costs into accounting practices, both for corporate and government financial statements. Environmental accounting is an effort to prevent, reduce, and avoid environmental impacts, starting from the re-improvement of events that cause disasters for all aspects of these activities [19].

Associated with the low SR disclosure which also shows the low level of environmental accounting disclosure in addition to being caused by external factors (stakeholder and government pressure) is also caused by internal company factors [20]. One of them is the lack of knowledge and ability of company management related to the disclosure of non-financial information, ranging from identification, measurement, to the presentation and disclosure of environmental information [11]. Also, management's fear of poor publicity and perceived poor performance also contributed to the low environmental accounting disclosure.

In some countries such as Pakistan, environmental disclosure is significantly related to environmental performance in companies in Pakistan. Companies with good environmental performance and low emission levels disclose more environmental information [16]. Besides, companies in Nigeria have a positive relationship between environmental accounting and the quality of accounting disclosure for shipping companies in Nigeria [21].

**2 Method and measurements****2.1 Data set**

The population in this study are all companies in all industries listed on the IDX. Samples were selected using purposive sampling and the criteria are company is listed on the Stock Exchange with an IPO before 2022, a published complete annual report ended on December 31 of 2021, and disclosed environmental accounting during 2021 in Indonesia. It applied specifically the technique to industrial companies which are selected based on monetary aspects (financial, assets, and profits) and non-monetary aspects (industrial waste, environment, social, and local culture). These two aspects interrelated, where from the monetary dimension it focuses on companies that get maximum profit and the non-monetary dimension includes the urgency of controlling CSR on the impact of environmental pollution felt by residents which has the potential to cause conflict.

In this study, the finance industry does not fit into the criteria of the sample because no company disclosed environmental accounting in its sustainability report [23,24]. So, we exclude the finance industry from the sample. From *Table 1*, the data collection is done by downloading the annual report published by the IDX through the official website [www.idx.co.id](http://www.idx.co.id) and the company's official website.

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*Table 1 Distribution of companies by sector*

Sector	Population		Sample		% of samples
	Total	(%)	Total	(%)	
Consumer Goods Industry	57	8.4	37	12.1	64.9
Agriculture	22	3.2	16	5.6	77.3
Mining	49	7.2	34	11.2	69.4
Various Industries	50	7.4	32	10.5	64.0
Property, Real Estate, and Building Construction	88	13.0	47	15.4	53.4
Finance	92	13.5	0	0	0
Basic Industry and Chemistry	73	10.8	51	16.7	69.9
Infrastructure, Utilities, and Transportation	79	11.6	32	10.5	40.5
Trade, Services, and Investment	169	24.9	55	18	32.5
Total	679	100.0	305	100.0	44.9

Source: [22]

**2.2 Analysis data**

Data analysis in this study uses descriptive analysis and scoring techniques. Scoring technique using the Fekrat scoring method, by classifying the environmental disclosures into four categories with a total of disclosure items aspects of the environment are eighteen items (environmental control equipment and facilities; past and current operating costs of environmental control equipment and facilities; estimated future expenditures for control equipment and facilities environment; future operating costs of environmental control equipment and facilities; funding for environmental control equipment or facilities; current litigation; potential litigation; comprise air emission information; water disposal information; solid waste disposal information; control, installation, facility, or process explained; facility compliance status; regulations and requirements; environmental policy or company concern for the environment; conservation of natural resources; rewards for environmental protection; recycling; and departments or offices for pollution control). The valuation model of Fekrat et al. [25] to assess aspects of environmental accounting disclosures. Four categories were disclosed i.e. regarding accounting and financial factors, environmental litigation, prevention of environmental pollution, and other aspects [26].

This environmental disclosure calculates that each item of environmental disclosure in the annual report is given a value of three if the item is discussed in monetary or quantitative terms, a value of two if the item is disclosed with company-specific information in non-quantitative

terms, a value of one of the item is only publicly disclosed, and zero value if the item is not in the disclosure [27].

**3 Results**

**3.1 Accounting and financial factors**

The first aspect in the Fekrat model is assessing the disclosure of accounting environment companies related aspects of finance and accounting related to the prevention, reduction, and cessation of environmental impact. Disclosure information items consist of past and present expenses for: a = environmental control equipment, and facilities, b = past and current operating costs of environmental control equipment and facilities, c = estimated future expenditures for control equipment and facilities environment, and d = future operating costs of environmental control equipment and facilities, and funding for environmental control equipment or facilities. The following are the results of environmental accounting disclosure scores related to accounting and financial factors in Table 2.

The average disclosure of accounting and financial accounting aspect is zero, which means that the majority of companies in Indonesia are not yet revealing aspects of this. The average zero does not mean that the whole company has not been doing the disclosure, but there are a few companies that have made disclosures and most have not made disclosures. The results showed that the items that have not been widely disclosed are items “a” through “d”.

*Table 2 Average factor disclosures for accounting and financial factors*

Disclosure item	Sector							
	1	2	3	4	5	6	7	8
a	0	0	0	0	0	0	0	0
b	0	0	0	0	0	0	0	0
c	0	0	0	0	0	0	0	0
d	0	0	0	0	0	0	0	0
e	2	1	2	2	1	1	1	0
Total average	0	0	0	0	0	0	0	0

Source: author’s calculating

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This shows that many companies have not specifically calculated and revealed the costs and costs that must be incurred for the operation and provision of environmental control facilities. These companies may have incurred expenses related to the environmental consequences of their operating activities but these expenses are not classified in the operating accounts and environmental control facilities. In PSAK itself there is no obligation to classify the account. However, in the ongoing report, all expenses and costs related to the environment must be specified in their designation.

In addition to not disclosing the costs and expenses that have been incurred, many companies also have not been able to budget or estimate the costs and expenses of environmental control. This is indicated by the average of items “c” and “d” which show zero values. This can indicate that the average company has not been able to identify the environmental impact of the company's operations so that it has not been able to determine the operating costs and burdens and facilities needed for environmental control.

*Table 3 Expenditures on PT Timah Tbk's costs related to environmental aspects*

No.	Program	Amount (IDR)
<i>Waste, Emission and Remediation Management Costs</i>		
1	Waste management	1,750,000,000
2	Emission and air quality monitoring	1,668,725,000
3	Permit protection and environmental management	244 043 .000
4	Life environment development	143,325,000
5	Equipment expenditure, maintenance and operation	1,187,200,000
<i>Cost of Environmental Prevention and Management</i>		
1	Environmental education and training	628,980,000
2	Reporting and documentation of the RKL-RPL and B3 waste program	32,736,000
3	Environmental document consultant	5,571,710,000
4	External environmental audit	412,038,000
Total		11,638,757,000

Source: author's calculating

The item that has been widely disclosed in item “e”, i.e. referring funding for environmental control activities and facilities. However, the companies disclose those items in general disclosure and specific disclosure but qualitatively (with an average of one and two). These companies only state that they have carried out activities environmental-related activities in their sustainability report. This form of funding is generally presented in CSR policy statements or in the reports of the board of commissioners and directors.

Companies that have revealed points “a” and “b” generally present in a variety of ways because there are no standards on which to disclose them. For example, PT Indocement Tunggul Prakarsa Tbk only reveals that in 2021 the company issued a charge amounting to IDR 21 billion to carry out activities related to the environment. Different PT Timah Tbk (TINS), which is the consumer goods industry, detailing environment expenditure and funds (see Table 2).

Disclosure made by PT Timah presented points “a” and “b” in the aspects of accounting and finance, i.e the costs,

operating costs, and environmental control facilities. Table 3 highlights expenditures from these companies for environmental aspects that are more inclined to cost of environmental prevention and management reaching IDR 6,645,464,000 (57.1%) rather than waste, emission, and remediation management costs of IDR 4,993,293,000 (42.9%). As for the expenditure of PT Timah Tbk based on the highest element is to hire a consultant in making environmental documents up to IDR 5,571,710,000.

**3.2 Environmental litigation**

The next aspect is the aspect of environmental litigation that assesses whether the company has revealed legal issues that occur now or that might occur in the future. The items assessed are: a = current litigation and b = potential litigation (which may occur in the future). The following are the results of environmental accounting disclosure scores on accounting and financial factors from Table 4.

*Table 4 Mean disclosure score of environmental litigation factors*

Disclosure item	Sector							
	1	2	3	4	5	6	7	8
a	0	0	0	0	0	0	0	0
b	0	0	0	0	0	0	0	0
Total average	0	0	0	0	0	0	0	0

Source: author's calculating

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The average disclosure of environmental factors on the company's litigation in Indonesia also still shows the number zero. This means that the company has not revealed any legal issues related to the environment that are currently running or that might occur due to environmental problems resulting from the company's activities.

The disclosure also needs to be done if the company is not in the litigation process. This is important for decision-makers because it is related to company contingent obligations (PSAK 31). The company must be able to identify and disclose contingent liabilities resulting from the litigation process related to the environment.

In addition to revealing aspects of ongoing litigation, the company must also be able to conduct analysis and identification of the possibility of potential litigation related to environmental issues. This can be the basis for companies to reduce risks that result in environmental-related litigation. The results showed that none of the companies in the study sample revealed quantitatively the existence of litigation processes and the potential for litigation. Companies that make disclosures only do disclosures in general with a score of one and specific but non-quantitative disclosures with a score of two.

One example of a company that discloses environmental litigation is PT Austindo Nusantara Jawa, Tbk from the agriculture industry. In the sustainability report, the company stated that in 2021, the company did not experience sanctions imposed fines for violations against laws or other environmental regulations.

**3.3 Reduction of environmental pollution**

Another assessment factor is disclosure related to reducing the environmental pollution. The items is: a =

consist of air emission information, b = water disposal information, c = solid waste disposal information, d = control, installation, facility, or process explained, and e = facility compliance status. *Table 5* highlights the environmental disclosure score related to the reduction of environmental pollution in which the average of all industries expresses the reduction of environmental pollution in general.

The results showed that quite some companies revealed a reduction in environmental pollution even with an average score of one. The average value of the disclosure indicates that the company is still expressing environmental pollution reduction factors in general disclosure. Examples are TINS revealed the company's efforts to reduce environmental pollution by controlling emissions through the lawyer turns to use Cloro Fluoro Carbon (CFC) into hydrocarbons environment friendly gradually along with the business of waste management.

Several companies have specifically expressed pollution reduction, but qualitatively. PT Sampoerna Agro Tbk (SGRO issuer code), in the agriculture industry, explains how activities in waste control are based on the 3R (reduce, reuse, and recycle) policy. Also, the company manages greenhouse gas (GHG) emissions in areas with high carbon reserves using three methods according to the needs, namely RSPO (Ton CO<sub>2</sub>e / Ton FFB), ISPO (kg CO<sub>2</sub>e / kg FFB), and ISCC (kg CO<sub>2</sub>e / Dry Ton FFB). PT Bakrieland Development Tbk (ELTY issuer code), the property industry, real estate, and building construction, shows how to use energy and water consumption each year. Also, the company explained how waste management activities with the 3R policy and working with parties who manage waste into useful products.

*Table 5 Average disclosure scores for environmental pollution reduction factors*

Disclosure item	Sector							
	1	2	3	4	5	6	7	8
a	1	1	1	0	0	1	1	0
b	1	1	1	1	1	1	1	0
c	1	1	1	1	1	1	1	1
d	1	1	1	1	0	1	1	0
e	1	1	1	1	0	1	0	0
Total average	1	1	1	1	0	1	1	0

Source: author's calculating

However, the most not disclosed points are items "a" and "e", which are related to air emission information and facility compliance status. In item, most of the companies that did not disclose were various industries, the property industry, real estate, and building construction, as well as the trade, service, and investment industries. This is possible because most of these industries do not have a direct impact on air emissions.

Item "e" relates to compliance with the company's operational technical activities related to the use of pollution reduction facilities. In this case, many companies do not disclose whether pollution reduction procedures and

facilities have been carried out according to procedures. Item "e" associated with item "d", which is an explanation of the control, installations, facilities, or processes. In the property, real estate, and building construction industry and the trade, service, and investment industries, on average there is no disclosure of item "d" and item "e". when the company does not have and does not disclose any explanation referring pollution control, installation, facilities or processes, it also tends not to disclose the item's compliance status of the facility.

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**3.4 Other aspects**

The last aspect of the Fekrat model is another aspect that does not belong to the previous aspect group. The items consist of discussion of: a = regulations and requirements, b = environmental policy or company concern for the environment, c = conservation of natural resources, d = rewards for environmental protection, e = recycling, and f = departments or offices for pollution control. *Table 6* also summarizes environmental accounting disclosure scores related to other aspects.

The average disclosure of other aspects shows an average of one. That means companies in Indonesia have revealed items in other aspects even if only in general. Item related to the existence of regulations and requirements from companies related to the environment has not been widely disclosed by companies in the agricultural industry which shows an average of zero. This shows that most agricultural industries do not have or do not disclose the existence of regulations or requirements referring the environment.

*Table 6 Average disclosure scores of other aspects*

Disclosure item	Sector							
	1	2	3	4	5	6	7	8
a	1	0	1	1	1	1	1	1
b	2	1	2	2	2	1	1	1
c	1	1	2	1	1	1	1	1
d	1	2	1	1	1	1	0	0
e	1	1	0	1	1	1	0	0
f	0	0	0	0	0	0	0	0
Total average	1	1	1	1	1	1	0	0

*Source: author's calculating*

Item “d” regarding awards for environmental protection has not been disclosed by the company in the infrastructure, utilities, and transportation industries as well as the trade, service, and investment industries. This is related to the relatively low average disclosure of environmental aspects in these industries so that these companies do not yet have an award scheme related to environmental control. At item “e” relevant recycling companies with no disclosure is in the mining industry, agriculture, infrastructure, utilities, and transportation and industrial trade, services, and investment. That is because in these industries it is not possible to recycle the resources that have been utilized.

of the disclosure there is an industry that shows zero value. In this case, zero means that there are quite a lot of companies in the industry that do not make disclosures, namely in the property, infrastructure, and trade industries. We presented the average total disclosures in *Table 7*.

Disclosure items that have a very low disclosure rate are items related to the existence of a special department for environmental control. The average company in all industries does not have or have not revealed the item. An example of item “a” is at PT United Tractors Tbk (the issuer code UNTR), the industry trade, services, and investment, explaining that the company is committed to carrying out operations without violating laws and regulations in the environmental field. The company conducts regular environmental audits of operational installations and evaluates performance specifically those that have a potential impact on the environment. Referring natural resource conservation, the company conducts Integrated Green Village (KHT) and Green Open Space (RTH) program activities.

The results also showed that a total average company has made disclosures related to aspects of pollution reduction and other aspects (related to environmental policies, awards, environmental agencies, conservation, and recycling). The average total disclosure indicates the value of one which means companies tend to only make disclosures in a general form.

**4 Discussion**

This study uses a valuation model used by Fekrat to assess the disclosure of accounting for corporate environments. In his research, Fekrat did not justify the high or low disclosure made by the company. However, the scoring method has scoring numbers 0, 1, 2, and 3 that can be assumed that the company which has an average of zero disclosures (no disclosures) has a lower value than the value of one (disclosures in general). So it can be concluded that a company or industry with a disclosure average value of one has a disclosure value higher than zero. The results of this study indicate an average disclosure of one, so it can be justified that companies in Indonesia still have quite a low level of disclosure when compared with other countries that have an average value of more than one (two or three).

The results showed that basically, companies in Indonesia have revealed environmental accounting even with fairly low average disclosures. This low assessment is because of the total of the average disclosures in all aspects

For example, the practice of applying environmental accounting standards in different countries has significant differences. Especially in developing countries such as Indonesia, Jordan, and other developing countries that are members of social and environmental accounting (SEA), where Saleh & Answerreh [28], Homan [29], and Qian [30] emphasize that the level of awareness of companies in environmental management is not optimal. In its

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application, of course, it is necessary to examine disclosures in environmental accounting with investment considerations and decisions. At the company management level, it has indeed pursued the level of environmental awareness. However, the biggest fear is the lack of qualified accountants who are suitable to apply

environmental accounting and understand the benefits or role of disclosure of environmental accounting. There needs to be a transformation of regulations that highlight the environment. Indirectly, the effect presents actual evidence in enforcing applicable laws.

*Table 7 Average total environmental accounting disclosure scores*

Sector	FA	L	PR	O	AT	HS	LS
Consumer Goods Industry	0	0	1	1	1	29	1
Agriculture	0	0	1	1	1	29	2
Mining	0	0	1	1	1	31	3
Various Industries	0	0	1	1	1	22	2
Property, Real Estate, and Building Construction	0	0	0	1	0	31	1
Basic Industry and Chemistry	0	0	1	1	1	35	1
Infrastructure, Utilities, and Transportation	0	0	1	0	0	21	1
Trade, Services, and Investment	0	0	0	0	0	23	1
Total	0	0	1	1	1	0	0

Source: author's calculating

For developed countries such as China and the Netherlands, national accounts have included environmental information through the environmental, economic accounting system (SEEA). Pirmana et al. [31] monitors SEEA as a high standard at the international level for monitoring and providing valuable support in environmental and economic sustainability. Issues in developed countries also become a practical focus in providing human resources, availability of funds, and data quality. The key to success in implementing SEEA is capacity building, with a consistent framework of variations in the system. Economic acceleration that is always inclusive needs to pay attention to the potential for the environment as an increasingly serious impact. Carbon emissions and smoke become pollution that contributes to pollution and sustainable development. The primary emphasis is the intensity of disclosure of information that understands environmental accounting gradually through economical means and environmental activities [32,33]. The way to improve the quality of the right environment is the position of the company to disseminate accurate accounting information.

Environmental accounting disclosure is part of CSR which is a direct form of corporate responsibility towards the environment and society. The theory or concept of legitimacy which is the concept that underlies the existence of CSR is also the basis for disclosure of environmental accounting for companies. Legitimacy is considered as a strategic factor in the development and survival of the company by operating following the rules and norms that exist in the community [34]. This is because companies are limited by social contracts with the community so that disclosure related to the environment and society is considered to be able to increase the positive value, acceptance (legitimacy) of the community, and the survival of the company.

The strengthening of this phenomenon is very relevant to previous studies that reviewed people's concerns about

drastic changes in the environment because of the expansion of the activities of companies that had only concentrated on the economy so far. In Africa, America, and Asia, markets for some export commodities such as oil palm plantations threaten environmental damage. High global market orientation, of course, has consequences for climate change [35]. For example, Lupu et al. [36] evaluates land that is increasingly degraded because of the development of the tourism industry, so that it is more considered a magnetic field to attract people from urban areas to villages. As a result, land space is increasingly limited and the level of urbanization is also increasing. Massive invasion will actually reduce the spatial function because the social, economic and cultural order is also high. Interestingly, the investigations of Manea et al. [37] conclude that some European countries that have applied environmental accounting principles have difficulty identifying the number of local economic losses caused by the activities of companies engaged in tourism. Especially for modern artificial tourism, many use land (endogenous) and which should still preserved because of natural heritage but has now shifted to highlight the tourist center. The sustainability monitoring process continues to be pursued through the application of an environmental tax for every tourist who travels.

Environmental accounting disclosure is also related to stakeholder theory which states that the existence and sustainability of a company are influenced by the support of stakeholders. Therefore, companies must continue to strive to get this support, one of which is by always providing environmental disclosures. Environmental disclosure will increase the trust and positive value of stakeholders to the company [38].

This is in line with the opinion of Singer [8] that the main factor driving environmental disclosure is the pressure from stakeholders and regulations. Both concepts are proven from several studies that show that there is a significant influence of environmental accounting

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disclosure on stock performance [39]. Besides, a study related to green accounting shows that there is a positive influence between environmental disclosure and environmental performance with the company's ability to generate profitability of the company [40].

Thus, the company must make maximum environmental disclosure related to the environmental impact of its operating activities. The results showed that environmental accounting disclosures at companies in Indonesia were limited to general disclosures indicating weak pressure from stakeholders and regulations. Under PP number 47 of 2020 regarding "business organizations" should have serious consequences on the recognition, measurement, recording, presentation, and disclosure of accounting related to environmental aspects [41,42]. However, especially for companies that directly manage natural resources, recognition related to environmental accounting on average is still on public disclosure with point one. This is related to the absence of standard rules or standards regarding proper disclosures related to environmental accounting.

Disclosure of accounting and financial aspects, pollution prevention, and other aspects in this study show an average of zero which indicates there has not been much quantitative disclosure. The company has not been able to specifically identify the environmental impact of its operational activities so it has not been able to determine the prevention activities and facilities. Therefore, costs and estimates related to activities and preventive facilities cannot be properly disclosed [43]. This happens to companies that do not directly utilize natural resources, such as in the trading or service industries.

Disclosure of litigation is also a factor that many companies do not disclose. This is related to the company's fear of the influence of bad publicity from the litigation process. The company does not want to be judged problematic because it is in the process of litigation or is considered to have problems with disclosing potential litigation. This is contrary to a study that shows that stakeholders will have a positive value from stakeholders by making appropriate disclosures. The company will be considered to have good transparency if the company discloses all risks of its operational activities.

## 5 Conclusion and contributions

The study aims to understand and explore standards in environmental accounting in companies listed on IDX in 2021. From these findings, we report that there are bright prospects for companies in Indonesia to have disclosed environmental accounting. However, a systematic dynamic occurred considering that the number of companies that made disclosures was only about 45% of the total issuers. The momentum of average disclosures that is carried out is general disclosures with an average of one point. This shows that companies in Indonesia have not been able to

identify activities and environmental impacts, facilities for handling and preventing these impacts.

With Fekrat's assessment, the average total score of one indicates a low score compared to points two and three when the company discloses certain environmental calculations and is based on monetary or quantitative units. There is no research to show whether quantitative disclosure is considered better than qualitative. In addition, the various ways in which disclosures occur are caused by the absence of standard standards governing disclosures.

We also concentrated on the theoretical steps of academic ideas. Most of the disclosures are for pollution prevention, environmental regulation, environmental policy or company concern for the environment, conservation of natural resources, awards for environmental protection, recycling, and departments or offices for pollution control. Average disclosures related to accounting, financial, and litigation aspects show zero, so the average company has not disclosed these aspects.

The escalation of the environmental accounting concept, which is minimally supported by the government, is certainly our concern. Concrete steps can be seen by transforming elements that involve all components of various economic sectors. Here, exploration provides extensive knowledge involving 44.9% sample of all companies officially listed on IDX. It should investigate comprehensively macro evaluations to focus on a country or region, so this is a significant novelty.

The theoretical steps are concentrated on academic ideas. Most of the disclosures are for pollution prevention, environmental regulation, environmental policy or company concern for the environment, conservation of natural resources, awards for environmental protection, recycling, and departments or offices for pollution control. Average disclosures related to accounting, financial, and litigation aspects show zero, which means that the average company has not disclosed these aspects.

The policy in practice involves the government's attention. Regulations regarding environmental accounting disclosure obligations already exist, but the rules for sustainability reporting related to OJK remain voluntary. Therefore, considering the importance of disclosure of the accounting environment and based on the results of research that still shows low disclosure by companies in Indonesia, policymakers in Indonesia must assess the effectiveness of regulations related to environmental protection efforts. In addition, the results of this study indicate the need for the legitimacy of the IDX as the administrator of the capital market to regulate company obligations related to environmental accounting disclosures in its sustainability reports.

## Acknowledgement

We are very grateful to the Acta Tecnología as a journal of high quality that has been very relevant to issues around accounting and finance demography, social sciences, urban-rural, and others in various worlds. The authors

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declare that there is no conflict of interest in this paper. Contributions from each author through several steps starting with the drafting of the concept by Mr. H.F, writing the manuscript Mrs. M.P.W, part of the methodology by Mrs. H.H, then validated the data by Mr. I.I and a reference description by Mr. D.C.D.

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**Review process**

Single-blind peer review process.