

ENVIRONMENTAL ACCOUNTING DISCLOSURE OF MINING COMPANIES IN INDONESIA: CONTENT ANALYSIS APPROACH

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ABSTRACT

This research aims to see the disclosure of environmental accounting in mining companies in Indonesia based on the environmental performance indicators from the GRI (Global Reporting Initiative). The research method used was the context analysis through the descriptive approach, using the Nvivo12 software and the annual report and sustainability report 2014 - 2018 period. The result was founded that the environmental accounting disclosure for the annual report was 16.04%; meanwhile, the sustainability report was 32.26% based on the total of environmental accounting disclosure, the GRI's Environmental Performance indicator often disclosed in the annual report is material (42.28%), meanwhile, in the sustainability report is biodiversity (23.95%). In comparison, the least disclosed indicator in the annual report is water (2.28%), and for the sustainability report is supplier environmental assessment (6.41%).

Keywords: *Environmental Accounting, Disclosures, Mining Companies, GRI, Nvivo12.*

INTRODUCTION

Mining companies are one of the fields of companies whose operational activities directly contact the natural environment's activities. According to Law number 4 of 2009 article 1 paragraph 1 regarding mineral and coal mining states that mining is part or all of the stages of activities in the framework of research, management, and exploitation of minerals or coal, which includes general investigations, exploration, feasibility studies, construction, mining, processing and refining, transportation and sales, and post-mining activities. The emergence of environmental activities, causing additional costs that must be incurred by mining companies both related to the company's economic activities and corporate social responsibility to the community so that the *value of the firm* is adequately maintained. Emerging environmental costs can be managed using environmental accounting. Environmental accounting is a useful tool for assessing aspects of the supply of natural capital and their exploitation, including sustainable environmental costs, benefits received, and the resulting impacts (Häyhä, T., & Franzese, P. P., 2014). Waste and environmental pollution are widespread generated by the company. *Concern* on the environment was raised in many sciences, so every mining company must pay attention to the disclosure of environmental accounting information, especially in the *annual report* and *sustainability report*.

Disclosure about environmental accounting has not been regulated in the PSAK standard, meaning that it voluntarily reports its environmental accounting information. Explained in PSAK No. 1 of 2009, paragraph nine (9), which states:

"Companies can also provide additional reports such as reports on the environment and value-added statements (value-added statement), especially for industries where environmental factors play an important role and for industries that consider employees as the user group that reports an important role."

Disclosure of environmental accounting information for mining companies is presented in *annual reports of regulatory disclosure requirements* and *sustainability reports* that are *voluntary disclosures*. Both of these reports can be used as a tool for interested parties to assess how well the mining company is responsible for its operational activities' environmental impacts. One way to assess environmental accounting quality for mining companies is by using environmental performance indicators from the *Global Reporting Initiative (GRI)*. *GRI* indicators of environmental aspects consist of *material, energy, water, biodiversity, emissions, effluents and waste, environmental compliance, and supplier environmental assessment*.

Research on the impact of the disclosure of environmental accounting on the quality of the company's performance made by Clement Lamboi Arthur, et al., (2017), finding that happens good progress in sector positioned after disclosure of environmental accounting is voluntary based guidelines *GRI* to improve the transparency, credibility, and comparability in sustainability reporting.

Research discussing environmental accounting standards conducted by Sónia Maria da Silva Monteiro and Beatriz Aibar Guzmán (2010) shows that the level of environmental disclosure and the number of Portuguese companies that disclose environmental information has increased. This research is supported by research conducted by B Omnamasivaya and MSV Prasad (2016). They found that financial performance influences the practice of environmental accounting disclosure in India. This shows that it is essential for a company to disclose environmental accounting in its company reports to improve environmental performance and company value in society.

There have been many studies that discuss the application of environmental accounting. However, there is still little research on Indonesia's environmental accounting disclosure, especially in the mining sector, so this research was conducted to provide an overview of environmental accounting disclosures in mining companies in Indonesia. This research can also be used as a model for evaluating accounting information on corporate environments, especially in mining

RESEARCH METHODS

This study uses *content analysis* with a descriptive qualitative approach and uses Nvivo12 qualitative software tools. This approach is used because to observe the environmental accounting disclosures contained in the *annual report* and *sustainability report* based on the disclosure of data generated by the Nvivo12 application requires researchers to describe the words that have the highest level of disclosure and then explain the results of the best disclosure of all information disclosures environmental accounting for mining companies in Indonesia.

Sources of data that researchers use are secondary data. Secondary data was obtained from the *corporate website* in the *annual report* and *sustainability report* mining company. A source of books, journals, and other scientific papers also discusses research topics together. It was also obtained from a literature study on the *Global Reporting Initiative (GRI)* and its application.

This study's scope focuses on mining companies registered in the Indonesian securities sector with a limitation of research on the disclosure of environmental accounting information presented by the company according to *GRI's* environmental performance indicators.

Data collection methods by:

1. Study of literature

The study of literature is done by understanding the GRI performance indicators on the official website *GRI* www.globalreporting.org, reading and studying the book related to scientific writing to get the data about accounting information systems environment and disclosure. In addition to books, this procedure will also be carried out by reading and understanding journals, articles, documents, and other scientific papers that discuss environmental accounting information and previous studies.

2. Website visit

Website visits carried out there are two parts, among others

- a. Visit the website <http://idx.go.id> and *corporate website* to download the mining company's *annual report*
- b. Visit the corporate website to download the company's sustainability report.

Data analysis included determining "*keywords*" as a data boundary, then eliminating words that had little meaning to the 100 words most often expressed manually, then classifying words based on "*keywords*" that were predetermined based on *GRI* environmental performance indicators. The data analysis has then been classified based on the level of quantity of word disclosure in the *annual report* and the *sustainability report*. This method aims to describe the situation or phenomenon in each company so that it can be compared with other companies to assess which company has the best disclosure. In this study, the authors analyze and explain things related to the disclosure of environmental accounting information.

RESULTS AND DISCUSSION

The subjects of this study are mining companies listed on the Indonesian stock exchange. Mining companies listed on the Indonesian stock exchange consist of 42 companies and are divided into four mining sub-sectors, among others

1. Coal Mining Company

Coal is the mining sector that is mostly run by companies listed on the Indonesian stock exchange, which are as many as 23 companies, including:

Table 1
Coal Mining Company

No	Stock Code	Issuer's Name	IPO date	Corporate Website
1	ADRO	Adaro Energy Tbk.	July 16, 2008	www.adaro.com
2	APEX	Apexindo Pratama Duta Tbk.	July 10, 2002	www.apexindo.com
3	ARII	Atlas Resources Tbk.	November 8, 2011	www.atlas-coal.co.id
4	ATPK	Bara Jaya International Tbk.	April 17, 2002	www.barajayainternational.co.id
5	BORN	Borneo Lumbung Energy & Metal Tbk.	Nov 26, 2010	www.borneo.co.id
6	BSSR	Baramulti Suksessarana Tbk.	November 8, 2012	www.bssr.co.id
7	EARTH	Bumi Resources Tbk.	July 30, 1990	www.bumiresources.com
8	BYAN	Bayan Resources Tbk.	August 12, 2008	www.bayan.com

9	GOD	Darma Henwa Tbk.	September 26, 2007	www.ptdh.co.id
10	DOID	Delta Dunia Makmur Tbk.	June 15, 2001	www.deltadunia.com
11	FIRE	Alfa Energi Investama Tbk.	June 9, 2017	www.alfacentra.com
12	GEMS	Golden Energy Mines Tbk.	November 17, 2011	www.goldenenergymines.com
13	GTBO	Garda Tujuh Buana Tbk.	July 9, 2009	www.gtb.co.id
14	HRUM	Harum Energy Tbk.	October 6, 2010	www.harumenergy.com
15	ITMG	Indo Tambangraya Megah Tbk.	December 18, 2007	www.itmg.co.id
16	KKGI	Resource Alam Indonesia Tbk.	July 1, 1991	www.raintbk.com
17	MBAP	Mitrabara Adiperdana Tbk.	July 10, 2014	www.mitrabaraadiperdana.co.id
18	MYOH	Samindo Resources Tbk	July 27, 2000	www.samindoresources.com
19	PKPK	Perdana Karya Perkasa Tbk.	July 11, 2007	www.pkpk-tbk.co.id
20	PTBA	Bukit Asam Tbk.	December 23, 2002	www.ptba.co.id
21	PTRO	Petrosea Tbk.	May 21, 1990	www.petrosea.com
22	SMMT	Golden Eagle Energy Tbk.	February 29, 2000	www.go-eagle.co.id
23	TOBA	Toba Bara Sejahtera Tbk.	July 6, 2012	www.tobabara.com

Source: Data processed (2019)

2. Oil and Gas Mining Companies

Companies in the oil and gas mining sector listed on the Indonesian stock exchange include:

Table 2
Oil and Gas Mining Companies

No	Stock code	Issuer's Name	IPO date	Corporate website
1	MEANING	Ratu Prabu Energi Tbk.	April 30, 2003	www.ratuprabuenergi.com
2	BIPI	Astrindo Nusantara Infrastruktur Tbk.	February 11, 2010	www.astrindonusantara.com
3	ELSA	Elnusa Tbk.	February 6, 2008	www.elnusa.co.id
4	ENRG	Energi Mega Persada Tbk.	June 7, 2004	www.emp.id
5	ESSA	Surya Esa Perkasa Tbk.	February 1, 2012	www.sep.co.id
6	MEDC	Medco Energy International Tbk.	October 12, 1994	www.medcoenergi.com
7	RUIS	Radiant Utama Interinsco Tbk.	July 12, 2006	www.radiant.co.id

Source: Data processed (2019)

3. Metal and Mineral Mining Company

Metal and mineral mining companies listed on the Indonesian stock exchange include:

Table 3
Metal and Mineral Mining Companies

No	Stock code	Issuer's Name	IPO date	Corporate website
1	ANTM	Aneka Tambang Tbk.	November 27, 1997	www.antam.com
2	CITA	Cita Mineral Investindo Tbk.	March 20, 2002	www.indonesia-investments.com
3	CKRA	Cakra Mineral Tbk.	May 19, 1999	www.ckra.co.id
4	DKFT	Central Omega Resources Tbk	November 21, 1997	www.centralomega.com
5	INCO	Vale Indonesia Tbk.	May 16, 1990	www.vale.com
6	MDKA	Merdeka Copper Gold Tbk.	June 19, 2015	www.merdeka-coppergold.com
7	PSAB	J Resources Asia Pacific Tbk.	December 1, 2007	www.jresources.com
8	SMRU	SMR Utama Tbk.	October 10, 2011	www.smrutama.com

9	TINS	Timah Tbk.	October 19, 1995	www.timah.com
10	ZINC	Kapuas Prima Coal Tbk.	October 16, 2017	www.kapuasprima.co.id

Source: Data processed (2019)

4. Rock Mining Company

Companies in the field of rock mining listed on the Indonesian stock exchange include:

Table 4
Rock Mining Company

No	Stock code	Issuer's Name	IPO date	Corporate website
1	CTTH	Citatah Tbk.	March 7, 1996	www.citatah.co.id
2	MITI	Mitra Investindo Tbk.	July 16, 1997	www.mitra-investindo.com

Source: Data processed (2019)

All data consisting of *annual reports* and *sustainability reports* are classified into Nvivo12 *internal resources*, into eight contents according to *GRI's* environmental performance indicators: material, energy, water, biodiversity, emissions, effluents and waste, and *environmental compliance, supplier environmental assessment*. However, the rest of the content included in the criteria included in the *other*, so total, there are nine indicators.

The results of data exploration using Nvivo12 show that each content has *keywords* with different themes. After the grouping process, the next 100 most frequently revealed themes are grouped into nine environmental performance indicators. Here in Table 5 of grouping the theme of *the keyword* on the analysis of *word frequency* into nine-category:

Table 5
Content Analysis Categories

No	Performance indicator	Category	Keyword
1	<i>Material</i>	The material used is based on weight or volume	Material, <i>resource</i> , volume, product, production, reserve, inventory, unit, ore, goods
		Input material from recycling used	
		Reclaimed products and packaging materials	
2,	<i>Energy</i>	Energy consumption in the inside and outside of the organization	Consumption, energy, fuel oil (BBM), power, ratio. Reduction, electricity
		Energy intensity	
		Reduction in energy consumption	
		Reduction in energy needed for products and services	
3	<i>Water</i>	Water collection based on sources	Water, sources, extraction
		Water sources are significantly affected by water withdrawals	
		Recycle and reuse water	
4	<i>Biodiversity</i>	Operational locations that are owned, leased, managed, or adjacent to protected areas and areas of high biodiversity value outside protected areas	Location, owned, leased, managed, area, diversity, biodiversity, habitat, protected, restoration species, land, environment, earth
		The significant impact of activities, products, and services on biodiversity	
		Protected or restored habitat	
		IUCN Red List species and national conservation register species with habitats in areas affected by operations	
5	<i>Emissions</i>	Direct GHG emissions (Scope 1)	Emissions, reductions, substances, destroyers, ozone, gas, CSR, yields, sustainability
		GHG energy emissions (Coverage 2) are indirect	
		Other indirect GHG emissions (Coverage 3)	

		The intensity of GHG emissions	
		GHG emission reduction	
		Emissions of ozone-depleting substances (ODS)	
		Nitrogen oxides (NOX), sulfur oxides (SOx), and air emissions are significantly more	
6	<i>Effluents and Waste</i>	Release of water-based on quality and purpose	Release, quality, waste, disposal, risk, spillage. Dangerous
		Waste by type and method of disposal	
		Significant spills	
		Transport of hazardous waste	
		Water bodies that are affected by the release and overflow of water	
7	<i>Environmental Compliance</i>	Non-compliance with environmental laws and regulations	Non-compliance, laws, regulations, complaints, safety, accidents, policies, standards, PSAK, GRI, ISO, law
8	<i>Supplier Environmental Assessment</i>	Selection of new suppliers using environmental criteria	Supplier, value, chain
		Negative environmental impacts in the supply chain and actions taken	
9	<i>Other</i>	Business Overview	Profile, company, mining, stakeholders, accounts of financial statements, news, activities
		Financial Information	
		Company Ownership Information	

Source: Data processed (2019)

Based on data from 196 study *annual reports* and 21 *sustainability reports*, the result of word frequency disclosure using Nvivo12 contains 17,545,254 of 196 words *annual report*. There are 889 551 words in the 21 *sustainability report* mining company disclosed. Then the *keyword* elimination is done and selected into 100 words with the highest level of disclosure of each company. The total number of words collected from the *annual report* is **2 . 5 63,456** or **14.61%** of 17,545,254 words and compiled from the *sustainability report* of **15 3,865** or **17.29%** 889,551 words.

After being classified into nine performance indicators, elimination is carried out again on the other indicators' words. Only the remaining words enter into the 8 *GRI* environmental performance indicators. In the *annual report*, the words that entered the indicators *of* and carried elimination as much as 2 .152.272 words so that the words are entered into the eight indicators of environmental performance *GRI* as many as 411 184 or 16.04% said the disclosure of the second. 5 63,456 words of the complete data source. In contrast, in the *sustainability report*, the words included in *other* indicators and eliminated were 104. Two hundred thirty-six words that enter into eight indicators of *GRI* environmental performance are 49,629 words or 32.26% disclosure from 153. 865 words total data source.

Nvivo12 data analysis showed that the *material* is the most frequent content disclosed in the *annual report* with the disclosure of 173 836 or 42.28% of the 411 184 196 words in the *annual report*, while content is most often expressed in the *sustainability report* is *biodiversity* with the disclosure of 1 1,888 or 23.95% of 49,629 words in 21 *sustainability reports*. The following details the percentage disclosure of 8 *GRI* environmental performance indicators :

Table 6

Disclosure of *GRI* Environmental Performance Indicators

<i>Annual Report</i>				<i>Sustainability Report</i>			
No	Performance Indicator	Disclosure		No	Performance Indicator	Disclosure	
		amount	Percentage			amount	Percentage
1	Material	173,836	42.28%	1	Biodiversity	11,888	23.95%

2	Supplier Environmental Assessment	71,778	17.46%
3	Biodiversity	45,198	10.99%
4	Emissions	30,453	7.41%
5	Energy	30,423	7.40%
6	Effluence and Waste	29,958	7.29%
7	Environmental Compliance	20,018	4.87%
8	Water	9,358	2.28%
Total		411,184	100%

2	Material	10,059	20.27%
3	Effluence and Waste	7,251	14.61%
4	Environmental Compliance	4,977	10.03%
5	Emissions	4,623	9.32%
6	Water	3,916	7.89%
7	Energy	3,733	7.52%
8	Supplier Environmental Assessment	3,182	6.41%
Total		49,629	100%

Based on data that has been processed, environmental accounting disclosures are then performed on each company, which is then used to assess environmental accounting disclosures made by mining companies. Researchers *coding* data to assess companies with the best and worst disclosures. The code used in the form of color that means a number that is **red** means disclosure below the average or lower at least 1% with a value of 1, **yellow** means disclosure approaching the average and a maximum difference of 1% with a value of 2, **green** means above the average with value 3.

Assessing Environmental Accounting Disclosures in Mining Company Annual Reports

Environmental accounting in the *annual report* of mining companies in Indonesia are disclosed at **411,184** words or **16.04 %** disclosure from 2 . 5 63,456 words of the whole data source. Following is a discussion of environmental accounting disclosures in each mining company :

1. Coal Mining Company

Based on Table 6 *word frequency* analysis, environmental accounting disclosures according to *GRI* environmental performance indicators for 23 coal mining companies amounted to **235,004** words; the percentage of disclosure level is presented in Table 7 as follows:

Table 7. Disclosure of Environmental Accounting in the *Annual Report* of the Coal Mining Company

No	Stock code	Material	Energy	Water	Biodiversity	Emissions	Effluence and Waste	Environmental Compliance	Environmental Assessment Supplier	Total	Value Points
1	ADRO	9.305	4.469	482	743	0	1.287	940	3.601	20.827	16
		44.68%	21.46%	2.31%	3.57%	0.00%	6.18%	4.51%	17.29%	100%	
2	APEX	0	973	208	514	304	455	929	1.424	4.807	20
		0.00%	20.24%	4.33%	10.69%	6.32%	9.47%	19.33%	29.62%	100%	
3	ARII	5.420	789	204	1.327	0	775	204	1.620	10.339	15
		52.42%	7.63%	1.97%	12.83%	0.00%	7.50%	1.97%	15.67%	100%	
4	ATPK	3.957	264	205	551	0	653	773	1.460	7.863	16
		50.32%	3.36%	2.61%	7.01%	0.00%	8.30%	9.83%	18.57%	100%	
5	BORN	1.453	465	0	0	44	152	260	47	2.421	14
		60.02%	19.21%	0.00%	0.00%	1.82%	6.28%	10.74%	1.94%	100%	
6	BSSR	2.956	283	173	188	396	369	672	774	5.811	16
		50.87%	4.87%	2.98%	3.24%	6.81%	6.35%	11.56%	13.32%	100%	
7	EARTH	10.367	2.417	1270	4.756	3039	5.079	0	2.635	29.563	18
		35.07%	8.18%	4.30%	16.09%	10.28%	17.18%	0.00%	8.91%	100%	
8	BYAN	6.412	0	319	2.104	0	1.765	618	2.234	13.452	17
		47.67%	0.00%	2.37%	15.64%	0.00%	13.12%	4.59%	16.61%	100%	
9	GOD	4.011	988	410	1.262	1.757	2213	483	1.807	12.931	18
		31.02%	7.64%	3.17%	9.76%	13.59%	17.11%	3.74%	13.97%	100%	

10	DOID	4 . 214	217	0	648	557	977	851	2 . 151	9 . 615	16
		43.83%	2.26%	0.00%	6.74%	5.79%	10.16%	8.85%	22.37%	100%	
11	FIRE	1 . 287	1 . 132	0	328	0	406	1 . 020	532	4 . 705	12
		27.35%	24.06%	0.00%	6.97%	0.00%	8.63%	21.68%	11.31%	100%	
12	GEMS	5 . 414	194	0	1 . 435	229	906	0	2 . 203	10 . 381	14
		52.15%	1.87%	0.00%	13.82%	2.21%	8.73%	0.00%	21.22%	100%	
13	GTBO	2 . 297	181	0	644	93	598	356	860	5 . 029	17
		45.68%	3.60%	0.00%	12.81%	1.85%	11.89%	7.08%	17.10%	100%	
14	HRUM	2 . 280	0	0	753	0	930	1 . 248	1 . 185	6 . 396	16
		35.65%	0.00%	0.00%	11.77%	0.00%	14.54%	19.51%	18.53%	100%	
15	ITMG	7 . 034	746	0	1 . 576	450	2 . 862	1 . 868	2 . 820	17 . 356	14
		40.53%	4.30%	0.00%	9.08%	2.59%	16.49%	10.76%	16.25%	100%	
16	KKGI	3 . 878	761	324	1 . 677	258	732	1 . 449	3 . 790	12 . 869	16
		30.13%	5.91%	2.52%	13.03%	2.00%	5.69%	11.26%	29.45%	100%	
17	MBAP	2 . 350	457	164	250	372	899	265	464	5 . 221	18
		45.01%	8.75%	3.14%	4.79%	7.13%	17.22%	5.08%	8.89%	100%	
18	MYOH	2 . 311	0	212	1 . 006	256	978	1 . 109	988	6 . 860	17
		33.69%	0.00%	3.09%	14.66%	3.73%	14.26%	16.17%	14.40%	100%	
19	PKPK	82	40	0	193	83	188	247	467	1 . 300	18
		6.31%	3.08%	0.00%	14.85%	6.38%	14.46%	19.00%	35.92%	100%	
20	PTBA	10 . 037	1 . 124	634	1 . 569	561	1 . 947	496	5 . 049	21 . 417	14
		46.86%	5.25%	2.96%	7.33%	2.62%	9.09%	2.32%	23.57%	100%	
21	PTRO	1 . 900	976	0	401	1 . 000	1 . 545	1 . 204	2 . 279	9 . 305	18
		20.42%	10.49%	0.00%	4.31%	10.75%	16.60%	12.94%	24.49%	100%	
22	SMMT	2 . 049	235	270	467	489	748	473	1 . 751	6 . 482	17
		31.61%	3.63%	4.17%	7.20%	7.54%	11.54%	7.30%	27.01%	100%	
23	TOBA	3 . 711	975	381	1 . 347	0	862	688	2 . 090	10 . 054	17
		36.91%	9.70%	3.79%	13.40%	0.00%	8.57%	6.84%	20.79%	100%	
Total		92 . 725	17 . 686	5 . 256	23 . 739	9 . 888	27 . 326	16153	42 . 231	235 . 004	
Disclosure rate		39.46%	7.53%	2.24%	10.10%	4.21%	11.63%	6.87%	17.97%	100%	

Source: Data processed (2019)

Based on the analysis of environmental accounting disclosures in the coal mining company, it can be concluded that environmental performance indicators of GRI who have the best level of the disclosure are a *material* where the average disclosures in the *annual report* amounted to 39.46 %. The worst level of disclosure is *water*, with the mean average disclosure is only 2.24%. The companies that make the best disclosures in coal mining are companies with an **APEX** stock code that accumulates 20 points out of 24 points. The worst disclosures are made by companies with **FIRE** share codes with a value point of 12 out of 24.

2. Oil and Gas Mining Companies

Based on *word frequency* analysis data, environmental accounting disclosures according to *GRI's* environmental performance indicators for oil and gas mining companies are **61,552** words, per calculation of the percentage of disclosures presented in Table 8, as follows:

Table 8

Disclosure of Environmental Accounting in the *Annual Report* of Oil and Gas Mining Companies

No	Stock code	Material	Energy	Water	Biodiversity	Emissions	Effluence and Waste	Environmental Compliance	Environmental Assessment Supplier	Total	Value Points
1	MEANING	378	455	0	46	227	73	73	77	1.329	16
		28.44%	34.24%	0.00%	3.46%	17.08%	5.49%	5.49%	5.79%	100%	
2	BIPI	3.464	379	446	432	1.126	0	267	1.692	7.806	16
		44.38%	4.86%	5.71%	5.53%	14.42%	0.00%	3.42%	21.68%	100%	
3	ELSA	6.258	533	0	678	0	0	349	599	8.417	12
		74.35%	6.33%	0.00%	8.06%	0.00%	0.00%	4.15%	7.12%	100%	
4	ENRG	8.124	2.028	0	2.095	1.804	350	328	1.754	16.483	18
		49.29%	12.30%	0.00%	12.71%	10.94%	2.12%	1.99%	10.64%	100%	
5	ESSA	1.679	583	153	1.018	910	0	153	0	4.496	17
		37.34%	12.97%	3.40%	22.64%	20.24%	0.00%	3.40%	0.00%	100%	
6	MEDC	7.564	4.353	0	1.433	1.143	0	233	3.101	17.827	13
		42.43%	24.42%	0.00%	8.04%	6.41%	0.00%	1.31%	17.39%	100%	
7	RUIS	1.971	148	0	186	701	0	301	1.887	5.194	14
		37.95%	2.85%	0.00%	3.58%	13.50%	0.00%	5.80%	36.33%	100%	
Total		29.438	8.479	599	5.888	5.911	423	1.704	9.110	61.552	
Disclosure Average		47.83%	13.78%	0.97%	9.57%	9.60%	0.69%	2.77%	14.80%	100%	

Source: Data processed (2019)

Based on the results of the analysis of environmental accounting disclosures in mining companies oil and gas, it can be concluded that environmental performance indicators of *GRI* who has the best level of the disclosure are a *material* where the average disclosures in the *annual report* amounted to 47.83 % and the worst level of disclosure was *effluents and waste* with an average disclosure of only 0.69%. The companies that make the best disclosures in oil and gas mining are the companies with **ENRG**, which collect 18 out of 24 points. Companies make the worst disclosures with the **ELSA** stock code with 12 out of 24.

3. Metal and Mineral Mining Company

Based on the data analysis of *word frequency*, the disclosure of environmental accounting appropriate environmental performance indicators *GRI* on metals and mineral mining companies amounted to **107 886** words, calculate the percentage of disclosures presented in Table 9, as follows :

Table 9
Disclosure of Environmental Accounting in the *Annual Report* of Metal and Mineral Mining Companies

No	Stock code	Material	Energy	Water	Biodiversity	Emissions	Effluence and Waste	Environmental Compliance	Environmental Assessment Supplier	Total	Points Score
1	ANTM	23.507	1.259	1.251	2.520	3.840	1.163	0	6.088	39.628	15
		59.32%	3.18%	3.16%	6.36%	9.69%	2.93%	0.00%	15.36%	100%	
2	CITA	2.243	201	214	2.388	698	221	0	2.009	7.974	16
		28.13%	2.52%	2.68%	29.95%	8.75%	2.77%	0.00%	25.19%	100%	
3	CKRA	651	0	0	0	148	96	0	696	1.591	12
		40.92%	0.00%	0.00%	0.00%	9.30%	6.03%	0.00%	43.75%	100%	
4	DKFT	3.163	0	0	663	526	0	0	1.076	5.428	13
		58.27%	0.00%	0.00%	12.21%	9.69%	0.00%	0.00%	19.82%	100%	
5	INCO	6.015	378	400	1.534	2.345	0	768	2.607	14.047	16
		42.82%	2.69%	2.85%	10.92%	16.69%	0.00%	5.47%	18.56%	100%	
6	MDKA	3.265	277	633	1.304	354	0	177	806	6.816	18
		47.90%	4.06%	9.29%	19.13%	5.19%	0.00%	2.60%	11.83%	100%	
7	PSAB	2.637	101	137	1.631	670	92	0	2.035	7.303	13
		36.11%	1.38%	1.88%	22.33%	9.17%	1.26%	0.00%	27.87%	100%	
8	SMRU	1.132	76	87	365	199	0	164	115	2.138	18
		52.95%	3.55%	4.07%	17.07%	9.31%	0.00%	7.67%	5.38%	100%	
9	TINS	6.699	867	781	2.971	5.007	0	454	4.271	21.050	20
		31.82%	4.12%	3.71%	14.11%	23.79%	0.00%	2.16%	20.29%	100%	
10	ZINC	467	56	0	411	290	65	0	622	1.911	17
		23.46%	2.81%	0.00%	20.64%	14.57%	3.26%	0.00%	31.24%	100%	
Total		49.779	3.215	3.503	13.787	14.077	1.637	1.563	20.325	107.886	
Disclosure Average		46.14%	2.98%	3.25%	12.78%	13.05%	1.52%	1.45%	18.84%	100%	

Source: Data processed (2019)

Based on the results of the analysis of environmental accounting disclosure in the mining of metals and minerals, it can be concluded that environmental performance indicators of *GRI* who has the best level of the disclosure are a *material* where the average disclosures in the *annual report* amounted to 46.14 % and the worst level of disclosure is *environmental compliance* den gan average expression of 1.45%. The companies that make the best disclosures in the metal and mineral mining sector are companies with **TINS** stock codes that collect 20 out of 24 points. Companies make the worst disclosures with **CKRA** stock codes with 12 out of 24 points.

4. The Rock Company

Based on *word frequency* analysis data, environmental accounting disclosures according to *GRI's* environmental performance indicators for rock mining companies are **6,742** words, per percentage of disclosure percentage is presented in Table 10, as follows :

Table 10
Disclosure of Environmental Accounting in the *Annual Report* of the Rock Mining Company

No	Stock code	Material	Energy	Water	Biodiversity	Emissions	Effluence and Waste	Environmental Compliance	Environmental Assessment Supplier	Total	Value Points
1	CTTH	847	0	0	1104	282	0	604	112	2949	18
		28.72%	0.00%	0.00%	37.44%	9.56%	0.00%	20.48%	3.80%	100%	
2	MITI	1.047	1043	0	680	295	572	156	0	3793	12
		27.60%	27.50%	0.00%	17.93%	7.78%	15.08%	4.11%	0.00%	100%	
Total		1,894	1,043	0	1,784	577	572	760	112	6,742	
Disclosure Average		28.09%	15.47%	0.00%	26.46%	8.56%	8.48%	11.27%	1.66%	100%	

Source: Data processed (2019)

Based on the results for information in environmental accounting on mining companies cobblestones, GRI's environmental performance indicators, which have the best disclosures, are *material* to an average disclosure of 28.09 %. The worst disclosure is *water*, with an average disclosure only at 0%. The companies that make the best disclosures are companies with **CTTH** stock codes that collect 18 value points out of 24 points. The worst disclosures are made by companies with **MITI** stock codes with 12 value points out of 24.

Assessing Disclosure of Accounting Environment p No Sustainability Report Mining Company

The environmental accounting for the *sustainability report* of mining companies in Indonesia is expressed as **49,629** words or **32.26 %** of 153,865 words of data sources based on the calculation of 100 words per company *annual report*. Based on the data analysis of *word frequency* in the *sustainability report*, environmental accounting disclosure of data on the *sustainability report* using the percentage count of disclosure is presented in Table 11, as follows :

Table 11
Disclosure of Environmental Accounting in *Sustainability Reports* of All Mining Companies

No	Stock code	Material	Energy	Water	Biodiversity	Emissions	Effluence and Waste	Environmental Compliance	Environmental Assessment Supplier	Total	Value Points
1	EARTH	1343	169	404	1313	499	443	219	248	4638	16
		28.96%	3.64%	8.71%	28.31%	10.76%	9.55%	4.72%	5.35%	100%	
2	PTRO	234	235	196	577	286	265	357	248	2398	20
		9.76%	9.80%	8.17%	24.06%	11.93%	11.05%	14.89%	10.34%	100%	
3	ELSA	947	459	195	623	120	69	668	49	3130	16
		30.26%	14.66%	6.23%	19.90%	3.83%	2.20%	21.34%	1.57%	100%	
4	MEDC	167	404	173	444	565	167	273	321	2514	16
		6.64%	16.07%	6.88%	17.66%	22.47%	6.64%	10.86%	12.77%	100%	
5	ANTM	5623	1212	1791	5680	1955	5073	2441	1201	24976	14
		22.51%	4.85%	7.17%	22.74%	7.83%	20.31%	9.77%	4.81%	100%	
6	INCO	906	757	509	1616	517	1084	648	712	6749	17
		13.42%	11.22%	7.54%	23.94%	7.66%	16.06%	9.60%	10.55%	100%	
7	TINS	839	497	648	1635	681	150	371	403	5224	18
		16.06%	9.51%	12.40%	31.30%	13.04%	2.87%	7.10%	7.71%	100%	
Total safety		10,059	3,733	3,916	11,888	4,623	7,251	4,977	3,182	49629	
Disclosure Average		20.27%	7.52%	7.89%	23.95%	9.32%	14.61%	10.03%	6.41%	100%	

Based on the results of the analysis of environmental accounting disclosures in 7 mining companies disclose *sustainability report*, it can be concluded that environmental performance indicators of *GRI* who has the best level of the disclosure are *biodiversity* where the average disclosures in the *sustainability report* amounted to 23.95 % and the worst level of disclosure is the *supplier of environmental assessment* with an average disclosure of only 6.41%. The mining companies that make the best disclosures are the companies with **PTRO** that collect 20 points out of 24 points. The worst disclosures are made by companies with **ANTM** stock codes with a point value of 14 out of 24. The study found a low level of environmental accounting disclosure based on *GRI* environmental performance indicators in the *annual report*. In contrast, the *sustainability report* has the right level of environmental accounting

disclosure. Disclosure of environmental accounting information is significant for mining companies as a tool for environmental management and communication tools with the community to increase the *firm's value*.

CONCLUSION

The results showed that 42 companies during the 2014-2018 period presented an *annual report* of 196 reports or 96.07% of 204 reports, and *sustainability reports* were 21 reports or 10.29% of 204 reports. The results find a low level of disclosure of environmental accounting-based performance indicators neighborhood of *GRI* in the *annual report* that disclosed by 16.04%, whereas in the *sustainability report* disclosure level of environmental accounting are classified as useful disclosed by 32.26%. Based on the total disclosure of environmental accounting, the *GRI's* environmental performance indicators are most often expressed in the annual report because it amounted to 42.28%. In contrast, in the sustainability report, *biodiversity* amounted to 23.95%. However, indicators fewest disclosed in the *annual report* are *water* amounted to 2.28%. In comparison, the *sustainability report* is a *supplier environmental assessment* of 6.41%.

Disclosure of environmental accounting in each mining sector's annual report shows that the company that revealed the best accounting in the coal sector was APEX. The oil and gas sector was ENRG, the metal and mineral sector was TINS, and the rocks field was CTTH. While the worst disclosure in coal is FIRE, the oil and gas sector is ELSA, the metal, and the mineral sector is CKRA, and the rocks field is MITI. The best environmental accounting disclosures in *sustainability reports* are PTRO companies, and the worst is ANTM companies. Disclosure of environmental accounting information is essential for mining companies as a means of environmental management and a tool of communication with the community as a form of corporate responsibility towards the environment to increase the firm's value in the community.

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