

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/377097069>

Board Profile and Pandemic Covid-19 Effect on Improving Level of Environmental, Social, And Governance (ESG) Disclosures: (Evidence from Energy Companies listed on the Indonesia St...

Article in WSEAS TRANSACTIONS ON COMPUTER RESEARCH · January 2024

DOI: 10.37394/232018.2024.12.17

CITATIONS

0

READS

30

2 authors:



Aloysius Harry Mukti

Universitas Bhayangkara Jakarta Raya

52 PUBLICATIONS 54 CITATIONS

[SEE PROFILE](#)



Triana Yuniati

Universitas Bhayangkara Jakarta Raya

13 PUBLICATIONS 27 CITATIONS

[SEE PROFILE](#)

Board Profile and Pandemic Covid-19 Effect on Improving Level of Environmental, Social, And Governance (ESG) Disclosures: (Evidence from Energy Companies listed on the Indonesia Stock Exchange in 2018-2020)

ALOYSIUS HARRY MUKTI, TRIANA YUNIATI
Department of Accounting,
Universitas Bhayangkara Jakarta Raya,
Jakarta,
INDONESIA

Abstract: - Environmental and social issues brought new emerging issues in running the business; profit was no longer the ultimate goal for sustainability, but concern to improving environmental, social, and governance quality is the one way to achieve sustainability. This study examines the effect of the BOD profile on the level of Environmental, Social, and Governance (ESG) disclosure. The CEO's educational background measured proxies of BOD profiles, the proportion of gender diversity in the Board of Directors, and the CEO's age. This study uses quantitative methods and multiple regression analysis to test the hypothesis. The sample in this study are companies listed on the Indonesia Stock Exchange in the energy sector, with a total sample of 62 firms years. The results showed that the CEO's educational background and CEO Age positively affect the level of ESG disclosure. Board gender diversity and the COVID-19 pandemic did not affect the level of ESG disclosure.

Key-Words: - BOD, ESG, Covid-19, CEO's, Energy Sectors, Gender Diversity.

Received: June 23, 2022. Revised: September 21, 2023. Accepted: October 23, 2023. Available online: November 22, 2023.

1 Introduction

Environmental, social, and governance (ESG) practices have been significantly increased because of the critical effect on business going concern, [1], provide benefit to society at large and, at the same time, maximize shareholder wealth, [2]. The ESG factor has become a key consideration for institutional and individual investors. More and more companies have shown a greater commitment to ESG activities to be recognized as socially responsible. At the same time, many asset managers, pension funds, and institutional investors have begun to assess the activities of companies when making investment decisions, [3]. Even though these practice has been spread and become legitimate, many cases still exist. Climate lawsuits are still an unsolved problem in developed countries during 2022, [4]; these issues are also becoming government attention in several developing countries such as Indonesia. The forest destruction to gain profit is still going on and under the supervision of the Ministry of Environment and Forestry, [5].

Due to the cases, The Indonesia Stock Exchange (IDX) has put more concern in business practices,

particularly in the energy sector, because Indonesia is a region rich in minerals and energy sources. Still, on the other side, the existence of this company has an impact on the environment.

Previous research studies have examined several factors that affect ESG disclosure. The most common factor was board diversity and gender. From the earlier studies, there's a perspective that it will differ when a woman is part of the board. The matter of sensitivity will vary from the masculinity stereotype, [6], [7], [8], showing mixed results. Still, notably, [6], the result suggested that the greater the diversity, the more excellent ESG performance. The age of the CEO also plays an important role; companies expect that the age will reflect the experience managing the company in any kind of issues, [9], [10]. These studies show that the CEO's age does not affect the level of ESG disclosure.

The partial observation year of this research was conducted during the pandemic COVID-19 era. We should control the effects of ESG activity before and during the COVID-19 pandemic, [11], [12], [13]. The firm's performance can also affect the company's ability to do additional activities such as ESG. The more the company performs, the more it

will increase its ability to absorb ESG activity. Then we should also control the different performances among companies, [14], [15]. Several research questions were raised from previous research with mixed results and problematization above. “Is there any effect of board profile and during the COVID-19 pandemic on the level of ESG disclosure? “.

This paper will contribute to several areas, first simultaneously board profile and during the pandemic covid-19 in one research model, that this result is still rare, particularly ESG disclosure on pandemic covid-19. Second, it will enrich the variability of results, particularly in energy sectors that operate the natural resources specific to the Indonesian context. Further, the structure of this article is as follows: section two will be a literature review discussing the theory, ESG itself, and hypothesis development, section three will be methodology, section four will be the result, and discussion and Section five will be the conclusion, limitation and further research.

2 Literature Review and Hypothesis Development

2.1 Legitimacy Theory

A social contract is a keyword; there’s an obligation or agreement for a corporation to operate within or respect social boundaries, which needs to be ensured to maintain the corporation in the long run or to fill the sustainability aspect, [16]. Emphasizing the link between ESG and legitimacy theory is crucial for the needs of stakeholders because they are putting increasing pressure on firms to engage in greening conduct to enhance ESG activity, [17]. Therefore, companies should adopt practices that can influence societal appraisal to increase their legitimacy, such as social and environmental practices, including actual activities and disclosure, [18], [19], [20]

2.2 Environmental, Social and Governance (ESG)

Starting in 2000, Secretary-General Kofi Annan aimed to implement universal principles in business by establishing the link between environmental, social, and governance. Then, ESG became a worldwide issue and concern, [21]. With increasing environmental problems, stakeholders need environmental information disclosure (EID) as a channel for stakeholders or external interests to understand environmental management activities, [22], [23]. ESG is also needed as a basis or indicator to measure the economic performance of the

company; sometimes, financial indicators do not provide accurate information on the overall performance therefore, ESG currently become a strategy as well as a tool for future cash flow, [24].

2.3 CEO Education Background on the Level of ESG Disclosure

Implementing and realizing that ESG is crucial to companies’ performance can be obtained if the CEO has a broader perspective and is willing to learn what is new and give added value to the companies. Selective information is needed to adopt new standards and activities carefully. Therefore, we assume education plays a vital role for the CEO to have this particular board perspective for implementing and extending the ESG practice. This assumption was also aligned with the previous studies, [25], [26]. This behavior of the CEO also supports the legitimacy theory; the CEO needs to be accepted among other CEOs in one industry. It shows that the CEO was legit in the operational activity that did not harm the environment, social, or governance aspects. Based on previous research, the first hypothesis is as follows:

H1: Educational Background of the CEO Has a Positive Effect on the Level of ESG Disclosure

2.4 Board Gender Diversity on the Level of ESG Disclosure

Accepting women’s gender on the board or in the companies is representative of sensing being diverse, [6], [7], [27]. ESG score was increased when the board was diverse, or there was a female gender on the board, [8]. This diversity represents a comprehensive resource for the board for decision-making in the business environment in Asia, particularly in Korea. The study, [28], shows the importance of women on the board for prioritizing stakeholders’ interests. Practice diversity among the board currently influences the boards. Therefore, the board will act according to the industry and society by caring about social issues and supporting the legitimacy theory. Based on previous research, the second hypothesis is as follows:

H2: The gender diversity of the Board Has a Positive Effect on the Level of ESG Disclosures

2.5 CEO Age on the Level of ESG Disclosure

Issues on Environmental and social concerns got stronger after the year 2000, so there’s a different style of management, [29]; the requirement after 2004 suggests that companies no longer focus on profit only as a performance indicator but should

consider non-financial measurement. Due to current issues, we assume that younger CEOs will be more familiar with dan paying attention because there's a different age culture to running the business. By this assumption, [10], also predicts that younger CEOs will tend to increase ESG awareness. That means it will also increase the ESG disclosure. The study, [9], showed different results that the Age of the CEO does not affect ESG Activity in the context of the Italian company. Despite the mixed results from previous studies, we believe the cultural age gap is essential in the Indonesian context, and innovative management techniques will be shown in the younger CEO. Based on previous research, the third hypothesis is as follows:

H3: CEO age has a negative effect on The Level of ESG Disclosure.

3 Methodology

The population in this study uses energy sector companies listed on the Indonesia Stock Exchange (IDX) with annual company reports for the 2018-2020 period. The purposive sampling method was used as a sample to meet the criteria determined based on specific considerations by the research objectives. So, the total sample in this study was 62 firm years. This research was carried out quantitatively with SPSS software. The multiple linear regression equation models used are as follows:

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \sum \alpha_4 Controls + \epsilon$$

These are : Y = ESG Disclosure (Appendix 1.ESG Items Disclosure from Nasdaq, 2019), α_0 = Constant, X1 = Education Background of the CEO, X2 = Gender diversity of the Board of Directors, X3 = Age of CEO, X4 = ROA (control), X5 = Dummy Covid Year (control), α_1 - α_4 = Partial Regression Coefficient, ϵ = Error/Other variables not identified in the model. The variable measurements are presented in Table 1 (Appendix).

4 Results and Discussion

The total sampling, in the beginning, was 71 firms per year or consisting of 28 companies; because this regression is not data panel or in this article using cross-section, we ignored the balanced sampling for three years of observation after several criteria such as data availability on stock exchange website and data outlier, the data that available is 62 firm years.

Table 2 (Appendix) shows that from education, almost less than half the CEO has an education from MBA. The board gender diversity showed that the value of mean 0,10 is near to the minimum value, or in other words, quite a small number of women on the board in this research sample.

The age of the CEO shows that the minimum age is 37 and the maximum age of the CEO is 62 years, with the mean of Age CEO being 52, near to the maximum value, which means the seniority of the CEO of this research sample is quite dominant. The level of ESG disclosure, from 30 indicators, showed that the maximum value is 73% or almost 22 items were disclosed in their annual report. If we see the near mean value to the maximum value, their disclosure of ESG activities is high or above average. Minta

4.1 Correlations

Table 3 (Appendix) shows two significant correlations as a pre-test before we proceed with the regression. The education of the CEO has a negative correlation with the board gender diversity, and age has a positive correlation with the level of ESG disclosure.

4.2 Model Fit and Hypothesis Result

Based on Table 4 (Appendix), it can be seen that the significance value is 0.021. This indicates that $0.021 < 0.05$. So, it can be concluded that the independent variables consisting of the educational background of the CEO, the gender proportion of the board, and the age of the CEO simultaneously affect the level of ESG disclosure. As well as the variables in this study declared fit to be used or included in the research model. It can be seen that the value of Adjusted R Square is 0.136 or 13.6%. This means that the ability of the independent variables, consisting of the educational background of the CEO, the gender proportion of the board, and the age of the CEO, can explain the effect on the level of ESG disclosure by 13.6 %. At the same time, the remaining 86.4% is influenced by other independent variables that have not been observed in this study.

4.3 Discussion

4.3.1 CEO Education Background on the Level of ESG Disclosure

The result in Table 4 (Appendix) shows that the educational background of CEOs, particularly MBA graduates, positively affects the level of ESG disclosure, aligning with the previous studies, [25], [26]. MBA graduate was one of the majors that accommodated students in operating businesses

within social boundaries. This major also discusses the new and innovative trends regarding business development. So, in these results, the higher proportion of CEOs with an MBA will increase ESG disclosure. They realized that financial indicator is no longer the only measurement companies being legit among other companies, so legitimacy theory plays a vital role; CEO need to be accepted within their industries to represent the priority on environmental and social issues.

4.3.2 Board Gender Diversity on the Level of ESG Disclosure

The result shows no effect on board gender diversity on the level of ESG disclosure. This result is not aligned with the previous studies, [6], [7], [27], [28]. This result can be explained with several probabilities; from the descriptive statistics, it shows that the board gender diversity is relatively small so that it can affect the outcome, or in the other reasoning, knowledge sensitivity regarding environmental and stakeholder priority is also aware by the masculinity group. The awareness of the environment and sustainable development cannot be dichotomized by gender in this context. Both women and men have a similar concern and priority to maximize stakeholders' value. The result did not support legitimacy theory in this context. The diversity of gender in the Indonesian context has a different effect, and board diversity gender is not relevant to assumption energy sector companies in Indonesia.

4.3.3 CEO Age on the Level of ESG Disclosure

Table 4 (Appendix) shows that the CEO's age positively affects the level of ESG disclosure. It means the more senior age of the CEO will lead to an increase in ESG disclosure. This result did not align with the previous studies, [9], [10]. Several reasons can cause these opposite directions. The age of CEOs does not guarantee the level of knowledge and sensitivity in ESG disclosure in the context of the energy sector in Indonesia. It can also be concluded that senior CEOs have an adequate concern regarding the safety of the environment and priority in social issues. Legitimacy theory still supports these results by showing that the CEO's age is important when companies want to expand the ESG disclosure.

4.3.4 Controls on the Level of ESG Disclosure

We predict that there will be a different pattern during the COVID-19 pandemic. ESG activities will be limited due to company responses to survive the operational COVID-19 pandemic. It might be that

companies will decrease or step aside ESG activities because there's another crucial aspect, for example, maintaining liquidity or preventing companies from bankruptcy. Still, the result shows no different pattern before and during the COVID-19 pandemic. It can be explained that ESG might already be part of the company's long-term goals to make the business model sustainable. ROA also does not affect the level of ESG disclosure, which means doing ESG does not affect the capabilities of firm performance. Compliance with regulation is above everything. Being legit in the industry is not a matter of profit but also having awareness and compliance with the law.

5 Conclusion, Limitation and Further Research

The discussion led us to several conclusions that the importance of the educational background of CEOs relevant to the issues for this context of research, and MBA graduates seem to have a positive effect on supporting ESG issues, the age of CEOs have the opposite direction or positive impact on the level of ESG disclosure, in the same time it also was a good problem by knowing that old age of CEO also has priority regarding environmental issues. Board gender diversity is not relevant to support the level of ESG disclosure. We can say that environmental issues did not belong to women or men. It's a matter of humans that care and prioritize the environment for sustainable business.

Several limitations can be addressed in this research and can be an opportunity for further investigation. First, the measurement of level ESG disclosure uses dummy variables. Next, research can develop another measurement, like the number of words or sentences, to measure the extensification of ESG disclosure. Second, educational background is limited to MBA graduates. Next, research can add another qualification, such as CEOs with sustainability certification or another relevant discipline, such as Law. The measurement of Covid years, using a dummy given value one of the Covid years, subsequent research can apply to the precise number of Covid representatives, such as the number of net income sales that might be lost during the COVID-19 pandemic.

References:

- [1] S. L. Gillan, A. Koch, and L. T. Starks, "Firms and social responsibility: A review of ESG and CSR research in corporate finance,"

- J. Corp. Finance*, vol. 66, p. 101889, Feb. 2021, doi: 10.1016/j.jcorpfin.2021.101889.
- [2] A. Tsang, T. Frost, and H. Cao, "Environmental, Social, and Governance (ESG) disclosure: A literature review," *Br. Account. Rev.*, vol. 55, no. 1, p. 101149, Jan. 2023, doi: 10.1016/j.bar.2022.101149.
- [3] S. Kim and Z. (Frank) Li, "Understanding the Impact of ESG Practices in Corporate Finance," *Sustainability*, vol. 13, no. 7, p. 3746, Mar. 2021, doi: 10.3390/su13073746.
- [4] S. Malo, "Four climate lawsuits to watch in 2022.", [Online], <https://www.reuters.com/legal/government/fo-ur-climate-lawsuits-watch-2022-2021-12-30/> (Accessed Date: 10/03/2023)
- [5] H. N. Jong, "Indonesia amnesties 75 companies operating illegally inside forest areas.", [Online], <https://news.mongabay.com/2022/09/indonesi-a-amnesties-75-companies-operating-illegally-inside-forest-areas/> (Accessed Date: 10/03/2023)
- [6] T. Aabo and I. C. Giorici, "Do female CEOs matter for ESG scores?," *Glob. Finance J.*, vol. 56, p. 100722, May 2023, doi: 10.1016/j.gfj.2022.100722.
- [7] L. T. M. Nguyen and P. T. Nguyen, "The board profiles that promote environmental, social, and governance disclosure—Evidence from S&P 500 firms," *Finance Res. Lett.*, vol. 55, p. 103925, Jul. 2023, doi: 10.1016/j.frl.2023.103925.
- [8] A. Shatnawi, J. A. Al-Gasawneh, H. Mansour, A. Alresheedi, and E. A. H. Hyasat, "The Impact of Board Diversity on Esg: The Moderating Effect of Legal Origins", *Journal of Positive School Psychology*, 2022, Vol. 6, No. 6, pp.3431-3448.
- [9] N. Cucari, S. Esposito De Falco, and B. Orlando, "Diversity of Board of Directors and Environmental Social Governance: Evidence from Italian Listed Companies," *Corp. Soc. Responsib. Environ. Manag.*, vol. 25, no. 3, pp. 250–266, May 2018, doi: 10.1002/csr.1452.
- [10] K. M. Oware and D. Awunyo-Vitor, "CEO characteristics and environmental disclosure of listed firms in an emerging economy: Does sustainability reporting format matter?," *Bus. Strategy Dev.*, vol. 4, no. 4, pp. 399–410, Dec. 2021, doi: 10.1002/bsd2.166.
- [11] C. A. Adams and S. Abhayawansa, "Connecting the COVID-19 pandemic, environmental, social and governance (ESG) investing and calls for 'harmonisation' of sustainability reporting," *Crit. Perspect. Account.*, vol. 82, p. 102309, Jan. 2022, doi: 10.1016/j.cpa.2021.102309.
- [12] V. Díaz, D. Ibrushi, and J. Zhao, "Reconsidering systematic factors during the Covid-19 pandemic – The rising importance of ESG," *Finance Res. Lett.*, vol. 38, p. 101870, Jan. 2021, doi: 10.1016/j.frl.2020.101870.
- [13] T. R. Kartika, "Liquidity on Banks Performance with Corporate Governance as a Moderating Variable (Indonesia Pandemic Covid-19 Evidence)," *WSEAS Transactions on Business and Economics*, ISSN / E-ISSN: 1109-9526 / 2224-2899, Volume 20, 2023, Art. #61, <https://doi.org/10.37394/23207.2023.20.61>.
- [14] J. J. Burke, "Do Boards Take Environmental, Social, and Governance Issues Seriously? Evidence from Media Coverage and CEO Dismissals," *J Bus Ethics*, vol. 176, no. 4, pp. 647–671, Apr. 2022, doi: 10.1007/s10551-020-04715-x.
- [15] R. DasGupta, "Financial performance shortfall, ESG controversies, and ESG performance: Evidence from firms worldwide," *Finance Res Lett*, vol. 46, p. 102487, May 2022, doi: 10.1016/j.frl.2021.102487.
- [16] C. Deegan, *Financial Accounting Thoery*. McGrawHill, 2014.
- [17] M. T. Lee and R. L. Raschke, "Stakeholder legitimacy in firm greening and financial performance: What about greenwashing temptations?☆," *J. Bus. Res.*, vol. 155, p. 113393, Jan. 2023, doi: 10.1016/j.jbusres.2022.113393.
- [18] M. Baldini, L. D. Maso, G. Liberatore, F. Mazzi, and S. Terzani, "Role of Country- and Firm-Level Determinants in Environmental, Social, and Governance Disclosure," *J. Bus. Ethics*, vol. 150, no. 1, pp. 79–98, Jun. 2018, doi: 10.1007/s10551-016-3139-1.
- [19] Y. Eliwa, A. Aboud, and A. Saleh, "ESG practices and the cost of debt: Evidence from EU countries," *Crit. Perspect. Account.*, vol. 79, p. 102097, Sep. 2021, doi: 10.1016/j.cpa.2019.102097.
- [20] D. Z. Huang, "Environmental, social and governance factors and assessing firm value: valuation, signalling and stakeholder perspectives," *Account. Finance*, vol. 62, no.

- S1, pp. 1983–2010, Apr. 2022, doi: 10.1111/acfi.12849.
- [21] Anonymous, “Who Cares Wins (Connecting Financial Markets to a Changing World),” *United Nation Dep. Public Inf.*, 2004.
- [22] Y. T. Utomo and Z. Shaleh, “Strategi Memasuki Pasar Global Studi Kasus Yanto Pottery Kasongan Bantul,” *Az Zarqa*, vol. 9, no. 1, Jun. 2017.
- [23] S. Yu, “The Effect of Environmental Information Disclosure on Firms’ Market Value: Empirically Comparative Study from Panel Data of Heavy- pollution Industries in China,” vol. 11, 2016.
- [24] A. Kocmanová, J. Hornungová, and M. Dočekalová, “Sustainable Corporate Performance: Interaction between Environmental, Social, Corporate Governance and Economic Indicators,” vol. 2, 2020.
- [25] C. Post and K. Byron, “Women on Boards and Firm Financial Performance: A Meta-Analysis,” *Acad Manage J*, vol. 58, no. 5, pp. 1546–1571, Oct. 2015, doi: 10.5465/amj.2013.0319.
- [26] N. Zahar, “The CEO Effect and Corporate Environmental Performance of Emerging Markets Firms: The influence of International Experience, Age and Educational Background and the Moderating Role of Board Independence”.
- [27] B. W. Husted and J. M. D. Sousa-Filho, “Board structure and environmental, social, and governance disclosure in Latin America,” *J. Bus. Res.*, vol. 102, pp. 220–227, Sep. 2019, doi: 10.1016/j.jbusres.2018.01.017.
- [28] Y. H. (Andy) Kim, J. Park, and H. Shin, “CEO facial masculinity, fraud, and ESG: Evidence from South Korea,” *Emerg. Mark. Rev.*, vol. 53, p. 100917, Dec. 2022, doi: 10.1016/j.ememar.2022.100917.
- [29] Nasdaq, *ESG Reporting Guide 2.0 (A support Resource for Companies)*. 2019.
- [30] I. Tampakoudis, A. Noulas, N. Kiosses, and G. Drogalas, “The effect of ESG on value creation from mergers and acquisitions. What changed during the COVID-19 pandemic?,” *Corp Gov Int J Bus Soc*, vol. 21, no. 6, pp. 1117–1141, Sep. 2021, doi: 10.1108/CG-10-2020-0448.
- [31] Kumar, Praveen, Firoz, and Mohammad, “Kumar, Praveen; Firoz, Mohammad, Does Accounting-based Financial Performance Value Environmental, Social and Governance (ESG) Disclosures? A detailed note on a corporate sustainability perspective,” *Australas Acc. Bus Finance J*, vol. 16, no. 1, 2022.

APPENDIX

Table 1. Variable Measurements

Variable	Operationalization	References
Education	CEO with educational background Master of Business Administration given value 1, 0 otherwise	[26]
Board Gender	Number of Women gender over the total board	[7], [8]
Age	CEO age from he/she was born up to his/her position now as a CEO	[10]
Disclosure of ESG	The environmental, Social, and Governance dimensions consist of ten indicators then the total disclosure is 30 indicators (appendix1). Dummy 1 for disclosing the item and 0 otherwise	[29]
Dummy year Covid	Year of pandemic Covid. Dummy 1 for year pandemic covid in 2020, 0 otherwise	[30]
Return on Assets	Percentage of Total Asset over Net Income.	[14], [15], [31]

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Means	Std Deviation
Education	62	0,00	1,00	0,3226	0,4712
Gender	62	0,00	0,40	0,1044	0,1150
Age	62	37,0	62,00	52,645	5,9783
ROA	62	0,00	0,21	0,0571	0,0490
D.Covid	62	0,00	1,00	0,3065	0,4647
ESG	62	0,33	0,73	0,5565	0,1090

Source: SPSS data Processed, 2023

Table 3. Descriptive Statistics

	ROA	Educ	Gender	Age	d.covid	ESG
ROA	1					
Educ	-0,064	1				
Gender	-0,163	-0,390**	1			
Age	0,118	-0,197	-0,192	1		
D.Covid	-0,060	-0,10	-0,053	0,046	1	
ESG	0,207	0,108	-0,069	0,358**	0,009	1

Sig Level : * 10%** 5%, *** 1%

Source: SPSS data Processed, 2023

Table 4. Hypothesis Result

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	std. Error			
Constant	0,104	0,131		0,798	0,428
Education	0,060	0,032	0,258	1,887	0,064*
Gender	0,104	0,100	0,143	1,039	0,303
Age	0,008	0,002	0,412	3,237	0,002***
ROA	0,4410	0,272	0,199	1,623	0,110
D.Covid	0,003	0,028	0,012	0,101	0,920

F-Test : 0,021
Adjusted R Square : 0,136
Dependent Variable : ESG
Sig Level : * 10%, ** 5*, *** 1%

Source: SPSS data Processed, 2023

Appendix 1. ESG Items Disclosure from Nasdaq, 2019

Environmental	Social	Governance
E1. GHG Emissions	S1. CEO Pay Ratio	G1. Board Diversity
E2. Emissions Intensity	S2. Gender Pay Ratio	G2. Board Independence
E3. Energy Usage)	S3. Employee Turnover)	G3. Incentivized Pay
E4. Energy Intensity)	S4. Gender Diversity)	G4. Collective bargaining
E5. Energy Mix)	S5. Temporary Worker Ratio	G5. Supplier Code of Conduct
E6. Water Usage	S6. Non-Discrimination	G6. Ethics & Anti-Corruption
E7. Environmental Operations	S7. Injury Rate	G7. Data Privacy
E8. Climate Oversight / Board	S8. Global Health & Safety	G8. ESG Reporting
E9. Climate Oversight/ Management	S9. Child & Forced Labor	G9. Disclosure Practices
E10. Climate Risk Mitigation	S10. Human Rights	G10. External Assurance

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

No funding was received for conducting this study.

Conflict of Interest

The authors have no conflict of interest to declare.

Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0

https://creativecommons.org/licenses/by/4.0/deed.en_US