JRSSEM 2023, Vol. 03, No. 04, 1010 – 1018
E-ISSN: 2807 - 6311, P-ISSN: 2807 - 6494

ROLE OF ACCOUNTANT TO NET ZERO EMISSION CARBON IN POWER PLANT COMPANY PT. CIKARANG LISTRINDO TBK

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ABSTRACT: The application of accounting towards zero carbon emissions in power generation companies is a strategic initiative in facing the challenges of global climate change. Power generation companies are increasingly realizing the importance of reducing their environmental impact by adopting sustainable practices. One of the key steps in achieving this goal is to implement accounting that focuses on measuring, reporting, and managing carbon emissions. The study examines power companies' efforts in implementing zero carbon emissions accounting as part of their sustainability strategy. The approach involved identifying, measuring, and reporting carbon emissions from companies' operations, energy resources, and supply chains. This data is then used to develop carbon emission reduction strategies and identify energy efficiency opportunities. The results of the study show that the implementation of zero carbon emission accounting has helped power generation companies to identify potential carbon emission reductions, improve their operational efficiency, reduce environmental impact, and support business continuity. In addition, public disclosures about carbon emissions have strengthened the company's image in the eyes of stakeholders, such as customers, investors, and regulators.

Keywords: Zero Carbon Emissions, Accounting Implementation, Emission Reduction, Power Generation

INTRODUCTION

The accountant profession has been known as a profession responsible for recording financial transactions and issuing financial reports to various organizations. With the problem of climate change that threatens all human life, the accounting profession cannot be passive in dealing with climate change. The accounting profession must

understand the issue of climate change ranging from the causes of climate change to its impact on economic activities. With this understanding, the accounting profession can participate in thinking about contributions to limiting the increase in global warming so that the targets in the Paris Agreement can be met. The contribution of the accounting profession requires accountants to enlarge their roles and responsibilities not only as transaction recorders and issuers of financial statements but also able to estimate the impact of a business activity on climate change and be able to disclose these impacts in financial statements.

The loss of some of the functions of forests as carbon sinks affects climate change which causes global warming both in Indonesia and the world. Global warming continues to increase causing the climate to become uncertain and changeable.

The pressure exerted by the owner of the company triggers the occurrence of violations, and damage to nature when the company carries out its production. Donalson and Preston (1995) and Mitchell et al., (1997) identify that stakeholder pressure reaches a point that encourages managers to engage with environmental issues. Burrito (2010) states that since then various accounting tools have been developed and applied. The large number of carbon emissions scattered in the air that are the impact of the company's production process causes serious impacts on the world's climate.

According to Taurisianti & Kurniawati (2014), carbon accounting has several underlying theories, one of which is: that carbon accounting is the process when organizations calculate and report their greenhouse gas emissions. So it can be concluded that carbon accounting is the recording of financial statements regarding carbon issuers produced by companies. With this record, companies can calculate the level of carbon emissions obtained from the measurement process. So that company managers can determine the right strategies to minimize the amount of carbon emissions produced in the next period and report them to company stakeholders. Carbon accounting is further strengthened by the signing of the Kyoto Protocol by all countries as a form of international agreement on global warming. Countries that signed this protocol pledged responsibility in minimizing the amount of carbon emissions they will produce later (Taurisianti &; Kurniawati, 2014). In Indonesia, the Kyoto Protocol mechanism is implemented through the enactment of Indonesian National Law Number 32 of 2009. This law is a form of implementation of the Kyoto Protocol which contains environmental protection and management (Setyaningrum, 2015). Kemudian pada beberapa negara maju pun telah menerapkan carbon accounting, seperti pada tahun 2016, United Nations

Climate Change Conference (UNFCCC) dalam Conference of the Parties 21 (COP 21) yang berdasarkan penelitian Seo, S. Niggol (2017) implemented in Paris resulted in the latest agreement, the Paris Agreement. The Paris Agreement was established to address the mitigation, financing, and adaptation of greenhouse gas emissions starting in 2020. The purpose of this agreement is to prevent an increase in global temperatures. This agreement entered into force on November 4, 2016, and then on May 19, 2017, as many as 195 states and the European Union participated in signing this agreement. Of the 195 countries that signed the treaty, 146 countries have agreed to the treaty. China, India, and the United States which are part of the countries with the largest greenhouse gas emissions are among the 146 countries that have agreed to the Paris Agreement (Zuhrufiyah & Anggraeni, 2019) Global warming has been discussed since 1896 when Arrhenius calculated the increase in carbon dioxide emissions in the atmosphere doubled and affected the earth's surface temperature by 4-60C Nordhaus (in Sugiyono, 2006). Arrhenius' calculations were ignored until 1980 when evidence provided for an increase in the amount of greenhouse gas concentrations in the atmosphere. According to Houghton et.al. According to Sugiyono (2006), the concentration of carbon dioxide in the atmosphere has increased by 31% from the beginning of the Industrial Revolution to 1998. Forest clearing and burning of fossil fuels are the main causes of increased greenhouse gas concentrations. The atmosphere has a whole layer of gases,

These include greenhouse gases and clouds, which will re-emit half the infrared radiation received on the Earth's surface. As a result of this layer, the heat contained on the surface of the earth can survive, this process is called the greenhouse effect. The long-term impact that will occur due to this process is the balance between the incoming radiation and incoming radiation. This is what causes the temperature on the surface of the earth to reach a certain number (Sugiyono, 2006).

To measure gas emissions, the Greenhouse Gas Protocol (GHG Protocol) was established in 2001 and has been recognized globally, It regulates standards for measuring and reporting emissions of emissions to a company. What is often used is the emission scope 1,2,3.

Scope 1: measures direct emissions owned and controlled by companies such as power producers or industrial processes (in this case power generation generators)

Scope 2: measures indirect emissions related to electricity, heating, and steam requirements

Scope 3: measures emissions from suppliers or third parties, such as transportation of goods and employees.

To reduce carbon emissions, some efforts have been made by the government, namely Carbon pricing, and efforts made by companies that are applying technology, such as capturing carbon particles into solid form also called xxx.

RESEARCH METHOD

This research is qualitative research that uses a literature review research method or literature study which according to Hardiansyah (2017) is a method that contains theories related to research problems. The problem in this study is to find out "The Role of Carbon Accounting in Companies in Preventing Global Warming". In this literature review research method, the author examines the concepts as well as theories studied sourced from available literature, namely sourced from textbooks, several official websites on the internet, research results in the form of theses, scientific journals published in Google Scholar and not a few of these journals have been accredited by SINTA, this indicates that these journals have gone through a peer review process so that sources can be ascertained The research used are credible research sources. A literature review has the main objective to develop aspects of practical benefits and theoretical aspects. So, with this method, the author can more easily solve the problems studied. The nature of the research that the author uses in this study is descriptive research. Descriptive research can be defined as research that focuses on systematic facts obtained during research. By looking at the annual sustainability report for the last 4 years, technology adapted to reduce carbon emissions will be analyzed and then compared to the achievements of reducing carbon emissions in the last 4 years (2019-2022)

RESULT AND DISCUSSION

In the energy sector, pressure to increase the energy generation mix is accelerating, among others, through the issuance of Presidential Regulation No. 112 of 2022 concerning the Acceleration of Renewable Energy Development for Electricity Supply. Furthermore, the recently formed *Just Energy Transition Partnership* is expected to support Indonesia's transition and aims to accelerate electricity sector emission reduction towards *net zero* and expand renewable energy sources. Targets from the partnership include peak emissions from the power sector of no more than 290 Mt CO2 by 2030 and 34% renewable energy in the generation mix by 2030. The Company realizes that the electricity sector has a very important role in supporting *zero-carbon* electrification throughout the industry. We recognize the challenges posed by the energy transition but remain confident in the resilience of the power sector and the Company's ability to adapt to changing market dynamics. The Company's optimism toward industry players domiciled in five industrial estates, which

are members of the Bekasi-Karawang-Purwakarta Integrated Economic and Industrial Zone (KEIT BEKAPUR) is inseparable from optimism towards the Government of Indonesia's support in improving the national investment climate, green economy, and digital transformation, the company has a high commitment to the implementation of ESG-based performance (Entrepreneurial, Social, and Governance) in realizing the balance between people, profit, and planet. The Company continues to conduct ethical business in social, economic, and environmental aspects, as well as contribute to the Sustainable Development Goals and create added value for all stakeholders. In sustainability reporting, the Company voluntarily adopts Global Reporting Initiative (GRI) standards in addition to referring to OJK regulations. The Company also provides information containing disclosures recommended by the Task Force on Climate-Related Financial Disclosures (TCFD). For this reporting, the Company consecutively achieved a gold rating for the 2021 and 2020 Sustainability Reports from the National Center for Corporate Reporting (formerly the National Center for Sustainability Report).

Meanwhile, in response to the Government's commitment to control national emissions and achieve zero carbon emissions by 2060 or sooner, the Company is committed to supporting the green economy and low carbon emissions through the use of renewable energy sources and reducing greenhouse gas emissions by 20% by 2030, in line with the commitment to reduce the energy sector. The Company has also made organizational adjustments by forming an Environmental Sustainability Team in 2020. The Board of Commissioners fully supports various strategic initiatives carried out by the Board of Directors in developing the Company's sustainability performance.

The Board of Commissioners expressed appreciation for all initiatives implemented by the Board of Directors and realized that the Company's achievements also received high appreciation from external parties for the implementation of sustainability finance, including *the Green Elite* title for transparency in emission reduction *and Platinum Plus* for the transparency of emission calculations from BeritaSatu and Bumi Global Karbon Foundation.

Strong commitment to environmental management efforts brought the Company for the first time to achieve the Green PROPER rating (PLTGU Jababeka) while maintaining the Blue PROPER rating (PLTU Babelan) from the Ministry of Environment and Forestry.

In addition, the Company demonstrates its priority on ESG performance by proactively working with independent ESG rating agencies to assess its performance. Based on the results of Sustainalytics' assessment in

2022, the Company's ESG Risk is considered to have improved from 40.1 to 30.8, mainly influenced by the improvement in quality and disclosure of the Company's ESG. The Company's ESG rating was also assessed by MSCI, upgraded from B to BB rating, as well as by S&P Global, increased from 21 points to 43 points.

The United Nations (UN) supports carbon accounting activities by issuing the Kyoto Protocol (1997) which is an international treaty that binds developed countries that ratify it to reduce their emissions from six of the most dangerous greenhouse gases. An initiative emerged with the signing of the Kyoto Protocol, which defined how governments, businesses, and consumers would need to change behavior and bring about a new economy (Ratnatunga, 2007). The Kyoto Protocol has provided a context in which several countries discuss policies on global warming (Cacho et al., 2003). Hoon (2010); in Kashyap et al., 2016) said that the Kyoto Protocol requires participating countries to reduce greenhouse gas emissions. Puspita (2015) said that the Kyoto Protocol, which has been signed and ratified by most countries in the world, is the key to change for the world community. Dwijayanti (2011) said that there are three mechanisms regulated in the Kyoto Protocol, namely: a) Joint implementation is cooperation between countries to reduce GHG emissions; b) development mechanism; and c) Carbon trading; is a win-win solution between developed and developing countries. Developed countries invest in developing countries to reduce GHG emissions in exchange for emission reduction certificates for these developed countries.

CONCLUSION

The Company has realized the adverse effects of carbon gas emissions that can cause the greenhouse effect and increase the earth's temperature (global warming), so the company actively drives its vision and mission towards a sustainable economy which certainly focuses on the good of the environment, with some of its business decisions to invest in several types of renewable energy and electric vehicles to switch completely away from technology with carbon emissions.

The Company also took the initiative to add plants around the power plant area. The purpose of this planting is to absorb CO2 emission gas produced by the plant and reduce noise. Until the end of 2021, Cikarang Listrindo has planted more than 5,300 trees including plants that have high CO2 absorption such as glodogan, trembles, banyan, Angsana, tabebuia, and the like as well as rare plants such as saint and sawo kecik. From this planting, the Company produced carbon sequestration in 2021 of 231.1 tons of CO2. Then at the end of 2022, we have replanted various trees covering an area of approximately 70 hectares. We have set aside more than

1,200 hectares in our coal mining operations to restore native vegetation throughout the period 2022-2028 in collaboration with local authorities.

On the application of technology to reduce carbon emissions, the company has used the latest technology in generator boilers that have CFB technology to bind sulfur and ESP (Electrostatic Precipitator) which can capture particulates produced by combustion thereby reducing particle emissions into the air.

Then in collaboration with GoTo, our sub-holding, Electrum, is building a two-wheeled electric vehicle ecosystem, including manufacturing facilities in Indonesia, and most importantly targeting carbon neutral by 2027 which supports the acceleration of the government's carbon-free program in 2030.

In 2020, the company acquired 49% share ownership of PT Adimitra Energi Hidro (AEH) engaged in the development of hydropower plants and PT Bayu Alam Sejahtera (BAS) engaged in the development of wind power plants.

The actual projects start from a floating solar power plant of 42 MWp which is under construction in Batam, wind energy of 20 MW in East Nusa Tenggara, and a hydroelectric power plant of 6MW in Lampung. TOBA will also review several alternatives to the development of other renewable energy projects so that the target of installed capacity of 100 MW by 2025 remains on track. With this commitment, TOBA strives to play a role in supporting the transition to clean and sustainable energy in Indonesia.

The company will also reduce coal production slowly until 2026. In 2023-2024, TOBA will still maintain a coal production volume of 3 million tons to 3.5 million tons per year. Then in 2025-2026, it drops a bit, there are adjustments adjusted to the conditions of our mine life span. Maybe 2-2.5 million tons per year.

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