

Corporate Strategic Response Towards Climate Change Mitigation: Insights from Interviews with Palm oil Companies

Jamaliah Abdul Majid^{*a} and Nur Athikah Mohamad Dzahir^b

^aTunku Puteri Intan Safinaz School of Accountancy (TISSA), College of Business, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia

Abstract

The increasing frequency of extreme weather events has prompted regulators, non-governmental organisations, academics and various other groups to take initiatives to address climate change issues. In line with these initiatives, a number of studies on corporate strategic responses toward climate change mitigation were conducted. Nevertheless, many of these prior studies tend to focus on large firms worldwide or firms in advanced countries. Thus, in this paper, we explore corporate strategic responses toward climate change mitigation by palm oil companies in Malaysia. Based on semi-structured interviews, the results show that there are various strategies to mitigate climate change adopted by the palm oil companies. These include the development of a comprehensive climate action plan with the oversight from the board of directors, and the setting up of carbon footprint monitoring system. Our results also suggest that the corporate strategic response of the Malaysian Palm oil companies examined align with the continuum-based model, as these companies continuously enhance their mitigation strategies over time.

Keywords: climate change, strategic response, mitigation strategies

1. INTRODUCTION

Climate change refers to a change of climate that is directly or indirectly caused by human activities, which modify the composition of the global atmosphere that lasted for an extended period of times (UNFCCC, 1992: Article 1). The change in climate is evidence through the increment in global temperature, changes in wind patterns, and precipitation (UNFCCC, 1992; United States Environmental Protection Agency, 2017). Melting of Arctic ice, increasing sea levels, increasing frequency of coastal flooding, hurricanes, heat waves, droughts, and many other weather events are signs that climate change issues are worsening (Bekhet and Othman, 2017; Narimisa and Narimisa, 2018). In Malaysia, the heavy rains and severe flooding, such as, in 2014, 2015 and 2021-2022 seem to suggest that Malaysia too experience extreme weather events. For example, the flooding in December 2021 caused floods in at least seven states in Malaysia, namely, Selangor, Melaka, Negeri Sembilan, Perak, Pahang, Terengganu, and Kelantan (Hassan, 2021; The Star, 2021). Flood at Klang, Selangor was the most severe and was regarded by the government as “one-in-a-100-year heavy rainfall” (Hassan, 2021). The effects of the floods were far-reaching, from delayed movement of containers and cargo to evacuation of victims and deaths from drowning (Hassan, 2021). The flood costs the country loss of lives and damages to the properties. The government allocated RM78 million for the disaster areas at Yan, Kedah (Hilmy, 2021).

The detrimental effects of extreme weather events arising from climate change have prompted governments, non-governmental organizations, and various stakeholders worldwide to launch numerous initiatives to address the issue. At an international level, these initiatives include the establishment of the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, the Paris Agreement, and the Conference of the

^{*}Corresponding author. Tel.: +6013-4873625
E-mail: jamaliah@uum.edu.my

Parties (COP). Malaysia too has made significant contributions to climate change mitigation through a range of initiatives, such as the National Policy on Climate Change, the National Corporate Greenhouse Gas Reporting Programme (MYCarbon), and the Low-Carbon City 2025 Sustainable Iskandar Malaysia.

Given the growing emphasis on climate change mitigation at both the international and national levels, it is crucial to also examine the role of the corporate sector in addressing the climate change issue. While government and non-governmental initiatives provide a strong foundation, the private sector's involvement and initiatives can significantly impact overall effectiveness. This is because many of the world's largest corporations have been major contributors to the increasing levels of carbon emissions (Wright and Nyberg, 2017). Thus, understanding how companies contribute to climate change mitigation, especially with regard to their strategies, is essential for developing a comprehensive approach to sustainability. Hence, in this study, we explore the corporate strategic responses toward climate change mitigation by companies in palm oil sector in Malaysia.

2. REVIEW OF LITERATURE

Climate change has captured increasing attention by media, regulators, and various stakeholders. Nevertheless, with the increasing interest, there is a lack of consensus on what constitutes climate change mitigation strategies (Cadez et al., 2019). One stream of research considers climate change mitigation strategies as initiatives taken by the businesses in dealing with any aspect of climate change regardless of whether the initiatives or strategies undertaken impact the greenhouse gas (GHG) emissions (Cadez et al., 2019). Another stream of research views the corporate climate change mitigation strategies as strategies undertaken to prevent or minimise the detrimental effect of the climate change. Hence, in this stream of research, the mitigation strategies on climate change focus on reducing the GHG emissions to the atmosphere, and/or enhancing the ability of the earth including oceans and forests to absorb carbons.

The review of key prior studies on climate change mitigation strategies reveals that corporations adopted diverse strategies in mitigating climate change (see Table 1). For example, Kolk and Pinkse (2005) categorizes climate change strategies into six main types: process improvement, internal transfer of emissions reductions, product development, supply chain measures, new product/market combinations, and acquisition of emission credits. Their framework, also referred to as 'strategic options for climate change,' emphasizes a broad range of approaches that companies can adopt to manage their climate impact. This study highlights that climate strategies are not monolithic but are instead a set of diverse actions tailored to specific organizational and environmental contexts. In a similar vein, Jeswani et al. (2008) investigate corporate activities related to climate change and classify them into internal activities, environmental and energy management activities, external activities, and GHG management activities. Their work underscores the multifaceted nature of corporate climate actions, revealing that effective climate change strategies involve both internal measures, such as improving energy efficiency, and external engagements, such as collaborating with external stakeholders.

Focusing on carbon dioxide (carbon) emission strategies, Weinhofer and Hoffmann (2010) categorize them into three primary types: carbon compensation, carbon reduction, and carbon independence. They further break down carbon compensation into emission trading and project-based compensation, carbon reduction into strategies like enhancing the efficiency of carbon-based power plants and acquiring less carbon-intensive power plants, and carbon independence into building or acquiring carbon-free power plants. Likewise, Lee (2012) categorizes carbon management activities into emission reduction commitments, product improvements, process and supply improvements, new market and business development, organizational involvement, and external relationship development. This approach reveals the dynamic nature of carbon management, highlighting how various organizational factors and external pressures shape corporate climate strategies.

In addition, Damert and Baumgartner (2018)'s investigation of climate change strategies identifies a wide range of corporate activities, including GHG management and policy development, risk management, product and process improvements, new market and product development, supplier involvement, emission trading and compensation, sector and stakeholder cooperation, corporate reporting, and political activities. This extensive list of activities reflects the comprehensive nature of corporate climate change strategies and underscores the importance of a multi-dimensional approach to mitigating climate impacts.

Table 1. Key studies on climate change mitigation strategies

Author(s)	Objective	Corporate strategy types	Detailed strategies
Kolk and Pinkse (2005)	Examine climate strategies	Climate strategy (also known as strategic	Process improvement, internal transfer of emissions reductions, product development,

		options for climate change)	supply chain measures, new product/market combinations, and acquisition of emission credits.
Jeswani et al. (2008)	Investigate corporate activities in response to climate change	Climate change activities	Internal activities, environmental and energy management activities, external activities, and GHG management activities.
Weinhofer and Hoffmann (2010)	Investigate carbon strategies, measures, and antecedents	Carbon strategies (compensation, reduction, carbon independence)	Carbon compensation (emission trading, project-based compensation), carbon reduction (efficiency improvements, fuel changes), and carbon independence (carbon-free power plants, efficiency enhancements).
Lee (2012)	Identify corporate carbon strategy and its influencing factors	Carbon management activities	Emission reduction commitment, product improvement, process and supply improvement, new market and business development, organizational involvement, and external relationship development.
Damert and Baumgartner (2018)	Examine climate change strategy and its determinants	Corporate activities	GHG management and policy development, organizational involvement, risk management, product and process improvements, new markets and products, supplier involvement, emission trading and compensation, sector and stakeholder cooperation, corporate reporting, and political activities.

The review of key studies on corporate strategic responses towards climate change mitigation suggests that these responses can be categorized using typology or continuum-based models. The continuum-based model views corporate strategic responses as a step-by-step process, assuming companies continually improve their environmental performance over time. It suggests that at any given moment, a company's responses fit into one specific category. On the other hand, the typology-based model recognizes that corporate strategic responses can vary widely. It classifies these responses based on how closely they match certain predefined types or templates, allowing for more diverse responses to environmental issues. Table 2 provides an overview of key studies that examine corporate strategic responses to climate change mitigation based on various categories. The table shows that studies by Levy and Kolk (2002), Jeswani et al. (2008), and Lee (2012) align with the continuum-based model of corporate strategic responses. This model views responses as a spectrum ranging from passive resistance to proactive engagement, reflecting varying degrees of company commitment. For example, Levy and Kolk (2002), in their analysis of how oil multinational corporations (MNCs) respond to climate change, categorize the responses into four types: resistant, avoidant, compliant, and proactive. Likewise, Lee (2012) identifies six type responses: wait-and-see observer, cautious reducer, product enhancer, all-round enhancer, emergent explorer, and all-round explorer. His classification provides a gradient of engagement levels, illustrating how companies progress from minimal involvement to more active roles in mitigating climate change.

On the other hand, the corporate strategic responses analyzed by Weinhofer and Hoffmann (2010), Sprengel and Busch (2011), Abreu et al. (2017), Damert and Baumgartner (2018), and Lebelhuber (2021) appear to fit the typology model. This model classifies the strategic responses into distinct categories based on their characteristics or profiles. For example, Weinhofer and Hoffmann (2010) identify several clusters in carbon strategies, including all-rounder, compensator, substituting compensator, reducer, substituting reducer, and preserver. Similarly, Lebelhuber (2021) examines corporate responses to climate change and distinguishes five types: minimalist, regulation shaper, pressure manager, emission avoider, and trade-off seeker. This typology highlights different levels of engagement and the pursuit of innovative solutions, including trade-offs, in addressing climate change.

Table 2. Classification of Corporate Strategic Responses to Climate Change Mitigation

Author(s)	Objective	Corporate Response Categories	Model Type
Levy and Kolk (2002)	Examine corporate responses and influences	Resistant, avoidant, compliant, and proactive.	Continuum-Based

Jeswani et al. (2008)	Investigate corporate activities in response to climate change	ndifferent, beginner, emerging, and active.	Continuum-Based
Lee (2012)	Identify corporate carbon strategies and influencing factors	Wait-and-see observer, cautious reducer, product enhancer, all-round enhancer, emergent explorer, and all-round explorer.	Continuum-Based
Kolk and Pinkse (2005)	Analyze strategy configurations for climate change	Cautious planners, emergent planners, internal explorers, vertical explorers, horizontal explorers, and emission traders.	Typology-Based
Weinhofer and Hoffmann (2010)	Investigate CO2 strategies and influencing factors	All-rounder, compensator, substituting compensator, reducer, substituting reducer, and preserver.	Typology-Based
Sprengel and Busch (2011)	Examine influence of stakeholder groups and GHG intensity	Minimalists, regulation shapers, pressure managers, and emission avoiders.	Typology-Based
Abreu et al. (2017)	Examine perceptions of climate change risks and carbon management practices	Minimalist, regulation shaper, pressure manager, and emission avoider.	Typology-Based
Damert and Baumgartner (2018)	Examine climate change strategies and determinants	All-round enhancer, legitimating reducer, emergent innovator, and introverted laggard.	Typology-Based

Overall, the review of literature on corporate strategies and responses to climate change mitigation reveals a complex and varied landscape. While significant insights have been gained, there is a need for additional research to better understand and enhance corporate engagement with climate change issues.

3. RESEARCH METHOD

To explore corporate strategic responses toward climate change mitigation, semi-structured interviews were conducted with key personnel involved in the sustainability and climate change issues, namely, the sustainability officers and sustainability managers of two palm oil companies in Malaysia. The interviews were guided by open-ended interview questions. Interviewees were contacted through formal gatekeepers, and via friends. Overall, two interviews were carried out with different groups of respondents from two companies. All the interviews were conducted in English and were tape-recorded. The audiotape recording is transcribed almost verbatim, which include non-standard grammar and the time when the interviewees were silence. To assist in retrieving certain information during the data analysis, each of the transcript starts with a heading which comprises brief information of the interviewee such as name, position held, and e-mail address.

To weigh the interviewee's responses appropriately, Bogdan & Biklen (2006) advised to include both the questions and the answers on the transcript. Following this advice, whenever a person speaks, we note down the name of the speaker followed by the question or replied made. In addition, spaces are allocated in the left-hand margin for paragraph numbering and in the right-hand margin for coding and comments. Before analysing the data, each transcript is edited by second checked against the recording for accuracy. For the transcript with the sustainability officers, the information supplied is also cross-checked with the annual/sustainability reports, whenever possible.

In coding the interview data, Auerbach & Silverstein (2003) suggested for selecting text passages which relates to the research concern. Additionally, in order not to overlook text passages which at the beginning appear to be irrelevant to the research concern, they recommended including text if it answered the following questions:

- Does it help you to understand your participants better?
- Does it clarify your thinking?
- Does it seem important even if you can't say why?

Based on this suggestion, when selecting relevant text, we read the transcript carefully and highlighted text passages which relate to the research concerns. At the same time, a brief comment regarding the highlighted text passage is made at the right-hand margin of the transcript. Even after reading the transcript twice, it is possible to miss out some important information, particularly for the first transcript. However, Auerbach & Silverstein (2003) argued that if the information is important, it will be discussed in more than one interviewee either in the same group or in different groups. Hence, there is high possibility for the information to be selected on reading the remaining transcripts (Auerbach & Silverstein, 2003). Similar to Auerbach & Silverstein (2003)'s method of overcoming the problem, when we highlighted text passages in the second transcript and found information which has been discussed in the first transcript but the text passage was not highlighted, we went back to the text and highlighted it as relevant.

4. FINDINGS

As noted earlier, in this study, we explore corporate strategic responses toward climate change mitigation by interviewing sustainability officers and sustainability managers of two palm oil companies. Based on the interview data, this study discovered that the two palm oil companies adopted various strategies to mitigate climate change. Company A, which is listed on Bursa Malaysia, has developed a comprehensive climate action plan. The sustainability officers of Company A explained that the climate action plan includes strategies for both mitigating and adapting to climate change impacts, with oversight from the board of directors and senior management. They further explained that the climate action plan integrates environmental considerations into all development activities and decision-making processes.

Given that Company A is in the palm oil sector, its key strategies in mitigating climate change focus largely on establishing conservation areas, land use planning, and responsible application of chemicals. In addition, Company A also emphasizes sustainable management of resources, such as energy and water. The sustainability officers informed that these efforts are designed to mitigate climate change impacts and enhance the company's ability to manage climate-related risks.

Meanwhile, Company B, which is smaller than Company A has implemented a comprehensive strategy to address climate change through various initiatives aimed at reducing greenhouse gas (GHG) emissions and promoting sustainable practices. The sustainability managers of Company B explained that the company developed a carbon footprint monitoring to actively monitor and account for the carbon footprint of its palm oil operations. This monitoring system helps Company B in identifying areas for improvement and tracking progress towards emission reduction goals. Similar to Company A, Company B has a sustainable land management in which the company adheres to a strict "No Planting on Peat" commitment. Figure 1 illustrates the numerous strategies in mitigating climate change implemented by Company B.

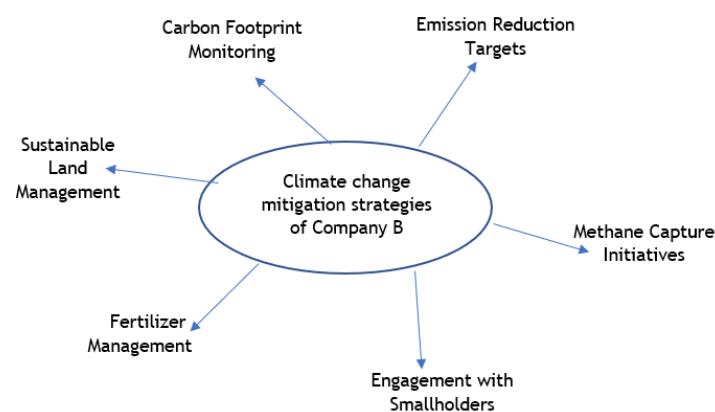


Fig. 1. Climate change mitigation strategies of Company B

Overall, our interviews with the two companies reveal that these palm oil companies are making substantial efforts to address climate change issues through their climate action plan, strategic planning and collaboration. Moreover, these strategies have evolved over time.

5. CONCLUSION

Climate change presents a significant challenge that impacts various facets of global and local environments. To explore how companies mitigate the climate change, especially in terms of their strategic responses, we undertake semi-structure interviews with sustainability managers and officers in two palm oil companies. Based on the interviews, our findings reveal that these palm oil companies have directly experienced the effects of climate change through increased occurrences of fires, floods, and other extreme weather events. In response, these palm oil companies have proactively developed various mitigation strategies. These include a comprehensive climate action plan and a carbon footprint monitoring systems that are designed to address these challenges.

The limitation of our study is that it is restricted to palm oil companies. Future research is recommended to expand the scope to include a broader range of agricultural sectors and other industries. This would provide a more holistic view of climate change strategies and their effectiveness across different contexts. Additionally, examining smaller or less prominent companies could yield valuable insights into diverse strategies to mitigating climate change.

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