Journal of Islamic Finance Vol. 11 No. 1 (2022) 1-16
IIUM Institute of Islamic Banking and Finance
ISSN 2289-2117 (O) / 2289-2109 (P)

Climate-Related Disclosure in Malaysian *Wakalah Sukuk*

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Abstract

It is evident that climate change, especially those related to Covid-19 has opened many new avenues of research and policy making initiatives. Climate-related disclosure is among them. While a number of policies have been drafted and finalized in both local and international markets, the practices to conform to the policies are only at the infant phase. Considering the initiatives taken by global policy makers and local regulators in relation to climate change, it is imperative to provide some insights on the responses of various financial players. For a beginning, this study has considered a number of *sukuk* issuers and their climate-related disclosures. Since these issuers' principal activities involve various business activities, diversity of climate change and climate-related disclosures are anticipated. Using a document analysis on 13 selected *Wakalah sukuk* documents, it was found that there are four types of climate-related risk disclosure with six types of disclosure practices. Further analysis is based on the provisions of Climate Change and Principle based Taxonomy (CCPT) (2021) and recommendations of Task Force Climate related Financial Disclosure (TCFD), the climate-related disclosure was found to be minimal and inadequate. However, the findings of this study are only limited to small sample size. Nonetheless, the findings may provide some insights for the financial players in their efforts to provide a quality climate-related disclosure and practices in tandem with the initiatives of the local regulators and international policy makers.

Keywords: *legal risk management, wakalah sukuk, Covid-19, climate change*

1. Introduction

> "The effects of climate change are not merely an ecological problem for scientists and conservationists to worry about. It presents a major economic issue with direct implications on financial stability. It is for this reason that Bank Negara Malaysia, along with many other central banks around the globe, are giving serious attention to climate risk" (Governor Nor Shamsiah,)

In her keynote speech for Regional Conference on Climate Change in September 2019, the Governor of Bank Negara Malaysia (BNM) has raised her concerns towards climate change and its effects. Climate change or climate risk is a multi-facets issue, i.e., not limited to the environment and science but economics, politics and diplomacy as well (Zhou & Mori, 2008). Similarly, climate change was also proven to be detrimental towards the financial markets. It was reported by Bank Negara Malaysia (BNM) (2021a) that as in November 2019, 11.7% assets held by Malaysian financial players were exposed to the effects of climate change. As a consequence, BNM has urgently directed all financial institutions to refer to the first batch climate change-related framework issued with reference to specific sectors, i.e., palm oil, renewable energy and energy efficiency in April 2021 to set the first response to climate change for financial markets. This initiative, i.e., the issuance of Climate Change and Principle-based Taxonomy (CCPT), is also in tandem with other global initiatives to address climate change as risk to financial markets, e.g., the Paris Agreement 2015, the European Commission climate actions and the application of Task Force for Climate-related Financial Disclosures

Article history
Received: 15 March 2022
Accepted: 10 May 2022

(TCFD).

A study conducted by Beyer *et al.* (2021) has found that there is a significant relationship between the local bat species richness and the SAR COV-1 and SAR COV-2 infections in the hotspot areas, i.e., southern Chinese Yunnan province. It was also discovered that the local bat species' geographical distribution was driven by the climatic changes in the province. Thus, it was implied that climate change may have played key role in the evolution of the two SARs as well as their transmission (Beyer *et al.*, 2021; Moore, 2021). For the past two years, the impacts of Covid-19 pandemic have been severe for most sectors, particularly manufacturing, real estate and business, wholesale and retail trade, accommodation and food (Lim, 2020). For the financial sector, it was proven that the Covid-19 pandemic have exposed the banks to more financial losses, i.e., in their stock returns and reduction of annual returns (Demirgüç-Kunt *et al.*, 2021). Similarly when the banks were urged to provide financial assistance, e.g., repayment flexibility and moratorium, they may also be exposed to reduction in loan/financing growth, liquidity as well as earnings (Jing, 2020), not to mention a few challenges in their operations due to the Movement Control Order (MCO) (Lim, 2021).

Climate change *per se* has long been acknowledged as a significant risk, particularly greenhouse-induced climate change (Jones, 2003). Among the earliest formal unit established to address climate change was Intergovernmental Panel on Climate Change (IPCC), i.e., in the year 1988. Its function has been described as to provide comprehensive review and recommendations in relation to the state of knowledge of climate change, the impacts of climate change and the potential response strategies (IPCC, 2021; Park, 2015). In 1992, a United Nation Framework Convention on Climate Change (UNFCCC) was held to address the issue of climate change and the adverse effects of climate change. In the Convention, climate change was defined as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods". On the other hand, the adverse effects of climate change was described as changes in the environment, as in physical environment or biota that affect the ecosystems as well as on the operation of socio-economic systems and the health and welfare of human beings. In the long run, the adverse effects of climate change have dispersed to other aspects of life, i.e., education, tourism, insurance industries as well as banking industries.

Chenet (2019) reported that, prior to the emerging trends of studies on climate change associated with finance, the former was perceived as a risk borne by the policy makers. In early 2000s, climate change in project finance was reported as risks that the project have towards the climate/ environment instead of the vice versa (Chenet, 2019). As the Covid-19 pervasiveness worsened, climate change was overwhelmingly perceived as a source of risk in finance (Liu *et al.*, 2021; Paisley and Nelson, 2019; Rudebusch, 2021). Based on Rudebusch (2021), climate changes pose physical risks and transition risks towards the financial institutions. Considering these significant findings, it is inadequately known on how and to what extent the financial sectors have incorporated climate change into their risk management policies as well as the approach, strategies and tools made available by for the risks.

As found in Abhayawansa and Adams (2021), reporting of climate change as risk within the selected industries was found to be inadequate. Similarly, studies conducted by others also found that the reporting of climate change was still minimal (Lombardi *et al.*, 2021; Thaker, 2020). Even though findings of these studies provide beneficial insights of the current practice of climate-related disclosure and reporting, more data are needed to determine on what and how the climate change has been disclosed by the financial players, considering the potential and evident effects of the former towards the latter. In conjunction with the continuous urges by the Bank Negara on the application of Task Force on Climate-Related Financial Disclosure (TCRF) (BNM, 2021c), reference should also be made to TCRF in order to ensure compliance of the climate-related disclosure with the global standards and the local regulatory standards.

'Sak', or well-known by its plural '*sukuk',* is a financial instrument that enables the Issuer to raise fund to finance its project through securitization. Considering the active roles of *sukuk* within the Islamic capital market and Islamic finance, particularly on the aspect of active participation of diverse backgrounds of Issuers and investors may entail the issue of risk management, e.g., how Issuer of different sectors discloses the risks to the investors and how investors of diverse jurisdictions may be affected by the risks embedded in the *sukuk.*

Risk reporting by the Issuer may be made available through the Issuer's annual report. However, risk reporting within specific project securitization is made through risk disclosure in the bonds or *sukuk* documentation (IFSB, 2013). This risk disclosure has been perceived by some as a technique of risk management (Barnes and Bagley, 1994; Sandler, 2010). In the Malaysian context, a *sukuk* prospectus as part of *sukuk* documentation is governed by the Prospectus Guidelines (SC-GL/PG-2012 (R3-2017). According to the guidelines, the provision on risk must "disclose the risk factors that would have a material adverse effect on the corporation's business operations, financial position and results, and shareholders' investments in the corporation" (p.10). Nonetheless, which risk factors relating to climate change to be disclosed may still be subject to the Issuer's decision since the provision literally provides ample room for discretion.

Since climate-related disclosure is still a new avenue for financial sectors in Malaysia, the findings of this study are expected to advance some information as well as to recommend further improvements in tandem with the efforts of Securities Commission and BNM (SC & BNM, 2021) towards the nascent climate-related assessment and disclosure requirement as seen in Climate Change and Principle-based Taxonomy (CCPT)(BNM, 2021b) and TCFD, i.e., particularly on the climate-related disclosure of physical risk, transition risk and liability risk. Thus, the objectives of this study are to: 1) identify the climate-related disclosure within *sukuk* documents, 2) analyse the climate-related disclosure practices within the *sukuk* documents, and 3) analyse the climate-related disclosure practices from the perspectives of recommendations provided in the TCFD and CCPT for financial players.

2. Literature Review

2.1 Climate change in various fields

Considering the many facets of climate change effects, past literature has shown diverse research concerns on the issue. They are either on the effects of climate change towards the agriculture sector (Addis and Abirdew, 2020; Gomez, 2015), social and political science (Nursey-Bray, 2010), business (Haigh and Shapiro, 2012; Lombardi *et al.*, 2021; Mair, 2011; Pineda, 2016; Thaker, 2020), economics and finance (Abhayawansa and Adams, 2021; Liu *et al.*, 2021; Park, 2015); climate change reporting and the research trends on climate change (Hartman, 2016; O'Dwyer and Unerman, 2020).

The literature on climate change can be traced back as early as 1980s, particularly on the exploration of the effects of climate change from scientific perspectives (Le Treut *et al.*, 2005). However, concerns pertaining to climate change have changed tremendously over the years. One of the concerns was on the effects of climate change on the agricultural sector. A study was conducted empirically on climate change strategies adopted on selected corps (Gomez, 2015). It was also found that few determinants influenced the decisions of climate change adaptations, i.e., information about future climate change conditions, social capital and access to formal extension and farmer-to-farmer extension. Similarly, it was discovered that climate change adaptation strategies of smallholder farmers in central Ethiopia were improving their crop varieties and input intensity, employing crop diversification, adjustments in their operation, i.e., time to plant, as well as soil and water conservation (Addis and Abirdew, 2020). Among the adaptation determinants identified by farmers include experience and historical data from the past farming (Addis and Abirdew, 2020).

In the field of social and political sciences, climate change has been studied in the aspect of climate change adaptations, i.e., developing module for climate change education for university course and training for maritime space. In a similar vein, adaptation strategies by Canadian archives were also explored (Oliver, 2021). The study conducted interviews on how the relevant parties perceived climate change adaptations for the Canadian archives. The climate change-related studies in the field of business took a different approach. The studies were either on the effects of climate change on a business or on the climate change strategies that have been developed by the businesses. In a study, the effect of climate change on event industry was explored (Mair, 2011). This conceptual study discussed the vulnerability, the adaptation and adaptive capacity of event industries towards climate change (Mair, 2011). Another study posited that a business may be affected by climate change through physical risk/resource risk and policy risk, i.e. the risks arising from government actions that can complicate the global supply chain (Pineda, 2016). These two risks were conceptualized within the supply and demand domains of a business. A case study was also conducted on automotive retailing sector and food retailing sector. The study found that climate change should be described under the supply, operation and demand domains of the company and suggested few climate change mitigation strategies. On the climate change strategies, there are two types of research evident in the literature. One that investigated the reporting of climate change and another that investigated on the measurement used to report the climate change. For the former, it was found by few studies that the climate change reporting particularly on financial risks that may arise from climate change in selected business is still lacking (Abhayawansa and Adams, 2021; Lombardi *et al.*, 2021).

Similarly, in another study, the reporting was found to be minimal (Thaker, 2020). For the latter, it was noted by the researcher that while significant number of studies have been conducted on climate change reporting, only a few have dived into how the reporting was derived from the climate change data. In his study, he investigated the measurement used to report the carbon emissions and how they have been reported. Selected diverse companies reporting (Carbon Disclosure Project) have been employed. The measurement and reporting were found tenuous (Haigh and Shapiro, 2012).

2.2 Climate change in economic and financial fields

For the economic and financial fields, a few studies can be found. A theoretical study done by Park (2015) has discovered that some theories have been proposed on the positive roles capitalism might play in securing climate change. However, the study posited that capitalism itself will endanger the environment unless efforts towards environment friendly wealth creation are in place. In view of this, there are some hypothetical effects of climate change on economics explained by this study, i.e., effects of capitalism towards the environment and the positive effects of climate change towards capitalism due to the formation of alternatives as results of natural resources depletion.

Similarly, insurance businesses were also proven to be affected by climate change. Hence, few studies were found on the climate change strategies and mitigation by the insurers. Considering the fact that insurers play ubiquitous roles in adapting to climate change of the insured, some strategies were recommended; reinsurance, hedging, risk spreading (Dlugolecki, 2008; Doherty, 1997; Fankhauser, 2012), not to mention other external strategies, e.g., improve building resilience, abiding to planning regulations and building codes to adapt to flood risk (Abbott, 2014). Another study found on this was empirical, i.e., on the effects of climate change on financial stability. Even though it has been long speculated on the effects of climate change on finance (Fankhauser, 2012), only a few has been maneuvered to investigate this empirically. In a study, evidences were found to support that climate change have effects on financial stability. This study developed financial stability index and found that there was non-linear and asymmetric relationship climate change and financial stability (Liu *et al.*, 2021).

2.3 Risk Reporting

One of the recent studies related to risk reporting was on its conceptual framework, i.e., risk reporting that includes Covid-19 risks and uncertainties (Crovini *et al.*, 2021). The framework incorporated disclosure and strategies as well as how the information can successfully reach relevant stakeholders (Crovini *et al.*, 2021). A study by Mcchlery and Hussainey (2021) found that risk reporting was not driven by the mandatory requirement. Other considerations, i.e., degree of risk, quality of firm, level of stock exchange and organizational visibility are among those that have impacted the risk reporting. Back in 2007, similar behavior of reporting was found, i.e., not driven by mandatory requirements (Mokhtar and Mellett, 2013). However, it was found by Mokhtar and Mellett (2013) that there was a tendency to report more backward-looking and qualitative risk disclosure in comparison to forward-looking and quantitative risk disclosure. The considerations that impacted the risk reporting were competition, role duality, board size, ownership concentration and auditor type (Mokhtar and Mellett, 2013).

Risk reporting was also attached to corporate disclosure. It was reported that financial risk disclosure and corporate disclosure are among understudied area of interest (Khandelwal *et al.*, 2019). In their study, i.e., systematic literature analysis, they indicated that most of the researchers have focused on the limited or single period to examine the risk disclosure practices, determinants and corporate performance. Hence, inadequate. In fact, based on our initial document analysis, it was also evident that risk reporting in *sukuk* documents, or *sukuk* issuer's disclosure is also lacking even though *sukuk* portfolios involved variety of risks, including climate change.

2.4 Climate change reporting

Literature on climate change reporting is nascent. Nonetheless, a few climate-changes reporting research can be found on business entities in several jurisdictions. For instance, a conceptual framework was proposed to conceptualize climate change reporting from the supply, operation and demand domains of a company (Pineda, 2016). This study posited that a business may be affected by climate change through physical risk/resource risk and policy risk, i.e., the risks arising from government actions that can complicate the global supply chain. These two risks were conceptualized within the supply and demand domains of a business. A case study was conducted on automotive retailing sector and food retailing sector. The study found that climate change should be described under the supply, operation and demand domains of the company and suggested few climate change mitigation strategies (Pineda, 2016).

In addition to this study, several studies that employed empirical data on climate change reporting were also found. Using four keywords count and quantitative content analysis on 90 Australian, New Zealand and Global 500 group, a study found that reporting of climate change is still minimal, most disclosure were on the societal effects of climate change and how the corporations have responded towards it. Also, a shift in reporting global warming into climate change was also evident (Thaker, 2020). Another study employed data from selected large entities, i.e., airlines, cruise and hotel (Abhayawansa and Adams, 2021). This study found that reporting of climate change was made in reference to legal risk, instead of physical and transition risks. The reporting was found to be inadequate because, there is (1) lack of recognition of the long-term nature of climate-related risks and the likelihood of pandemics; (2) lack of detail on the business impacts of risks; (3) lack of disclosure of risk mitigation strategies for pandemic-related risks and climate-related physical risks; and (4) subpar reporting of linkages between pandemic- and climate-related risks, governance, strategy and risk management. However, the reports assessed in this study were those issued prior to 2019 Covid-19 epidemic and pandemic to really address the recent climate change reporting of the companies. In similar vein, a study was also conducted to investigate climate-related information reported by the public interest entities (PIE), i.e., using the reporting of 34 large IPE in EU (Lombardi *et al.*, 2021). It was found that the reporting on financial risks arising from climate change by the entities is inadequate. However, the study also noted that the inadequacy has signaled the early phase of compliance by PIEs in regards to the climate-related disclosure based on the European Commission guidelines.

It is noteworthy that studies on climate change reporting and climate-related disclosure are emerging and confined to business entities. The findings of some have shed some lights on the risk reporting and climate-related disclosure of the business entities, mostly large entities studies (Abhayawansa and Adams, 2021; Lombardi *et al.*, 2021; Thaker, 2020). Given the large samples used in the previous studies and the quantitative approaches, this study has opted for small sample and qualitative approach to analyze thoroughly the practices of climate-related disclosure. Considering the diversified sectors/backgrounds of *sukuk* Issuers, hence diverse inherent risks in *sukuk*, the findings of this study may be useful to fill in the gap in the existing literature on climate-related disclosures.

3. Conceptual Framework

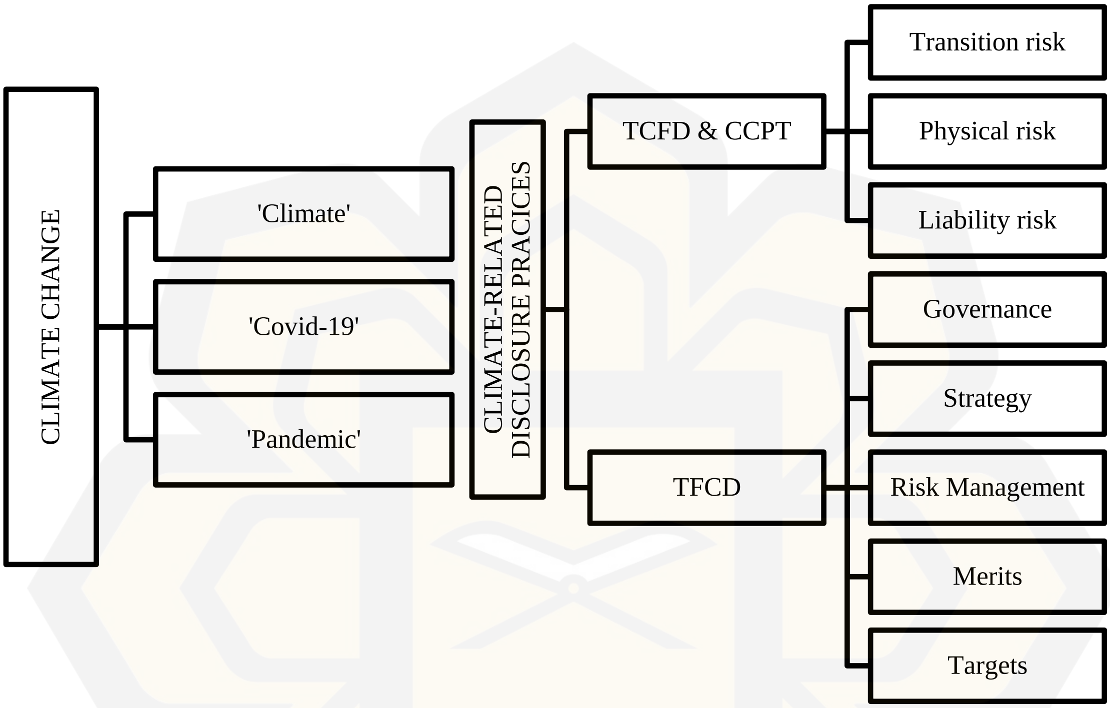
Climate change has been defined in slightly different ways. In a study, it was observed that there are two sets of definition provided by relevant policy maker (Pielke, 2005). According to IPCC, the United Nations group which was tasked to assess climate science for the effect of policy making, climate change is "any change in climate over time whether due to natural variability or as a result of human activity". Based on the Framework Convention on Climate Change (FCCC), climate change is "'a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability over comparable time periods". At the same time, there is also more scientific definition of 'climate change' analyzed by Werndl (2016) that was offered as "climate as the finite distribution of the climate variables over time relative to a regime of varying external conditions".

These definitions, if taken literally are different in terms of the causes of the climate change, i.e., (1) natural variability and human activity as seen in IPCC definition, (2) direct and indirect human activity as seen in FCCC definition and (3) non-specified external conditions (Werndl, 2016). Thus, this study will take all the causes availably disclosed. On the other hand, definition of climate related disclosure has not been adequately addressed in the relevant policies, CCPT and TFCD. However, it was found in the draft of IFRS Sustainability Disclosure Standards that 'climate-related disclosure' by an entity has the objectives to disclose information that can enable users of its general-purpose financial reporting to determine the effects of climate-related risks and opportunities, understand the available resources to manage the risks and evaluate the entity's ability in response to climate-related risks and opportunities. Based on these, climate-related disclosure can be any information that can achieve the objectives.

In the Malaysian context, there is also no specific guidelines on how the climate-related risks should be disclosed. However, the current recommendations by Bank Negara on the application of Task Force on

Climate-Related Financial Disclosure (TCRF) (BNM, 2021c) and Climate Change and Principle-based Taxonomy (CCPT) (BNM, 2021b) i.e., particularly on the climate-related disclosure of physical risk, transition risk and liability risk can be referred to. These are to analyze the climate-related disclosure practices in tandem with international standards, TCRF and local regulatory standards, CCPT.

Figure 1: Conceptual Framework



4. Research Methodology

This is an exploratory study, i.e., to determine the climate change disclosure in Malaysian *sukuk* documents. It employs inductive approach, using a content analysis technique. Content analysis is used as both data collection and data analysis instruments. The *sukuk* were selected from the list of *sukuk* registered under the LOLA e-submission system of SC Malaysia. Since this study focuses on the climate change disclosure with emphasis on the pandemic Covid-19, only *sukuk* issued in the year of 2019, 2020 and 2021 were shortlisted.

Table 1: List of *sukuk* issued in 2019-2021.

No.	Year	***Sukuk* Issuance (by type)**	**No. of *sukuk* issued**
1.	2019	*Wakalah*	1
		Murabahah	6
		Musyarakah	2
		ASEAN/SRI	2
		Perpetual	1
			(12)
2.	2020	*Wakalah*	12
		Murabahah	7
		Musyarakah	2
		Ijarah	1
		ASEAN/SRI	2

		Perpetual	1
			(25)
3.	2021	*Wakalah*	8
		Murabahah	3
		Musyarakah	3
		Ijarah	1
		ASEAN/SRI	3
			(18 as at Jan 2022)

Based on Table 1, *sukuk* based on *wakalah* is the most employed structure. This structure is preferred among the *sukuk* issuers because it offers returns that mimic the return of a conventional bonds (ISRA Islamic Commercial Law Report, 2017). It was reported that the outlook for this structure is convincing with the attitude of Islamic financial institutions issuing *wakalah sukuk* to conform with the Basel III requirements (Thomson Reuters, 2016). This is because, under the *wakalah sukuk* structure, the underlying asset can be a pool of assets. The pool may consist of a mixture of tangible asset and intangible asset, shares and receivables. Islamic financial institutions normally hold a huge number of receivables, like commodity murabahah receivables (ISRA, 2017). This kind of underlying asset allows the financial institutions to convert the *sukuk* into shares of common equity. As a result, this study will select this structure and employ only those *wakalah sukuk* that have been issued (exclude pending issuance) to identify the climate-related disclosure. From 2019-2021, it was found that there were 24 *sukuk* issuance based on *wakalah* contract. However, only 21 *wakalah sukuk* has been successfully issued at the time of the data collection. Out of the 21 *wakalah sukuk* that have been issued, only 13 *wakalah sukuk* complete documents can be retrieved from the website, i.e., Securities Commission (SC) and Bixmalaysia, an associated link to facility information. Therefore, the final dataset consists of only 13 *wakalah sukuk* as follow:

Table 2: Coding of *Wakalah Sukuk* Employed in the Dataset.

Code	Issuer	Issuer Background	IM (A)	TD (B)	Year Issued
1.	MBSB Bank Berhad (Senior *Sukuk Wakalah* and/or Tier-2 *Sukuk Wakalah* and/or Additional Tier-1 Capital *Sukuk Wakalah* Programm)	Financial Institution	√	√	2019
2.	SHC Capital Sdn. Bhd. (*Sukuk Wakalah* Programme)	SPV (Investment Holding), subsidiary of TCE that involves in supply of materials/ equipment to water, oil and gas industries	√	√	2020
3.	BGRB Venture Sdn Bhd (*Sukuk Wakalah* Programme)	SPV (Investment Holding), Guarantor involves in investment holding and provision of management services in property investment and development etc.	√	√	2020
4.	Perbadanan Kemajuan Pertanian Negeri Pahang (*Sukuk Wakalah* Programme)	Statutory Body involves in agriculture (mainly palm oil plantation)	√	√	2020
5.	Bank Pembangunan Malaysia Berhad (*Sukuk Wakalah* Programme)	Development financial institution	√	√	2020

6.	Guan Chong Berhad (*Sukuk Wakalah* Programme)	Public Limited Company, managing subsidiaries involved in manufacturing cocoa products	√	√	2020
7.	Sunsuria Berhad (*Sukuk Wakalah* Programme)	Private Limited Company, involves in investment holding and provision of management services in property investment and development etc.	√	√	2020
8.	Evyap Sabun Malaysia Sdn. Bhd. (*Sukuk Wakalah* Programme)	Private Limited Company, owed by 2 foreign companies. Principal activities are manufacturing and sale of all kinds of soaps, oleochemical and personal care products.	√	√	2020
9.	Bermaz Auto Berhad (IMTN/ICP *Sukuk Wakalah* Programme	Public Company (Investment Holding). Principal activities are distribution, retailing of Mazda vehicles and provision of after-sales services for Mazda vehicles in Malaysia.	√	√	2020
10.	Leader Energy Sdn Bhd (ASEAN Green SRI *Sukuk Wakalah*)	Private Limited Company. Owns 2 companies to operate the project. The project companies principal activities are: *LSE 1*: engineering, procurement, construction, operating and maintenance of solar photovoltaic power plants. *LSE 2*: the operation of generation facilities that produce electric energy.	√	√	2020
11.	Dialog Group Berhad (Senior and/or Subordinated Perpetual *Sukuk Wakalah* Programme)	Private Limited Company. Own subsidiaries which involve in mainly the oil, gas and petrochemical industry.	√	√	2021
12.	Putrajaya Holdings Sdn. Bhd. (*Sukuk Wakalah* Programme)	Private Limited Company. Principal activities are property development, leasing of buildings and investment holding.	√	X	2021
13.	Eco World Capital Services Berhad (Islamic Medium Term Notes)	Public Limited Company. Issuer is a wholly owned subsidiary of Kafalah Provider, i.e. Investment holding company with subsidiaries principally involved in property development, investment holding, property investment holding etc.	√	√	2021

This study employs document analysis, through keyword search and themes developed from the data itself. The keywords search will involve a few terms, i.e., “climate”, “Covid-19”, “pandemic”, “environment”. The keyword search will be made on the “Investment Considerations” (IC), an important part within the *sukuk* Information Memorandum (IM) where *sukuk* Issuer issues all the risks associated with the *sukuk*. To supplement the IM, the keyword search will also be made on Trust Deeds (TD) of the selected *wakalah sukuk*. Given the fact that TD is a contract between the Issuer and the Trustee who represents the *sukuk* holder, it is plausible to anticipate certain risk management techniques, where the risk is disclosed. The keyword search will lead into the climate-related disclosure practices, e.g., disclosure of risk, risk mitigation strategies etc. If possible, the disclosure practices will be categorized into the disclosure of transition risks and physical risks, following the dominants of TCFD, as well as liability risk, additional dominant following the CCPT. From there, the climate change risk disclosure in the perspectives of Malaysian *sukuk* may be conceptualized, hence, identified potential use for the financial players.

5. Finding and Discussion

Table 3: Frequencies of Climate-related Disclosures in the Selected *Wakalah Sukuk*

	1.A.	2.A.	3.A.	4.A.	5.A.	6.A.	7.A.	8.A.	9.A.	10.A	11.A	12.A	13.A	To tal
CR1 Gr*= 9	0	1	2	0	0	0	2	0	0	2	0	1	1	9
RR8 Gr*= 23	0	1	4	0	1	4	2	0	2	0	4	2	3	23
RR7 Gr*= 7	0	1	1	2	0	0	0	1	0	1	0	0	1	7
RR9 Gr*= 12	0	0	1	0	1	3	1	1	2	1	1	0	1	12
Totals	0	3	8	2	2	7	5	2	4	4	5	3	6	51

*Note: * Gr is the grounded count, i.e. the counts of the code throughout the documents.*

As indicated in Table 3 above, changes in domestic regulatory conditions risks are the most disclosed climate-change in the *wakalah sukuk* IM. The least disclosed climate change is the changes in international regulatory conditions risks at the count of 7 only. While most documents have disclosed on climate change, similar finding cannot be implied on 1.A. It is assumed that the disclosure was not evident due to unforeseen significant effects of climate change at the time when the IM was issued. This is because, the IM was issued on 22nd November 2019, when the peak on Covid-19 expansion was yet to reach Malaysia.

Based on our document analysis, it was found that there were two types of climate-related disclosures found in the *wakalah sukuk* IM. In these disclosures, the Issuer disclose the risks as follow:

1) *Climate-related compliance risk disclosure:*

a. (CR1) Compliance to Environmental Laws Risk: risks associated with compliance to various environmental laws. The Issuer is subject to various environmental laws, policies and regulations. Non-compliance with the laws may lead to few implications e.g., suspension or revocation of Issuer' license to operate, financial and criminal liabilities. This risk arises when the Issuer/Guarantor as the case may be, gave no assurance that compliance to the laws can be made.

2) *Climate-related regulatory risk:*

a. (RR7) Environmental Law Risk: Risks associated with changes in health, safety and environmental laws. For some Issuers, these risks cover many aspects e.g., laws pertaining to water, air, noise pollution and the disposal of waste materials etc. Changes in environmental laws or standards imposed by the relevant regulatory body may lead to changes in costs or revenue of the Issuer. This is particularly apparent when the laws or standards became more stringent in the future.

b. (RR8) Changes in Domestic Regulatory Conditions Risks: Changes in regulatory conditions, domestically that may have adverse impact on the *wakalah sukuk*. This type of risk is frequently reported in the IC as "Political, Economic and Regulatory Considerations". This risk also includes changes or in some IM, "adverse developments" in the government current regulations and policies, e.g. Movement Control

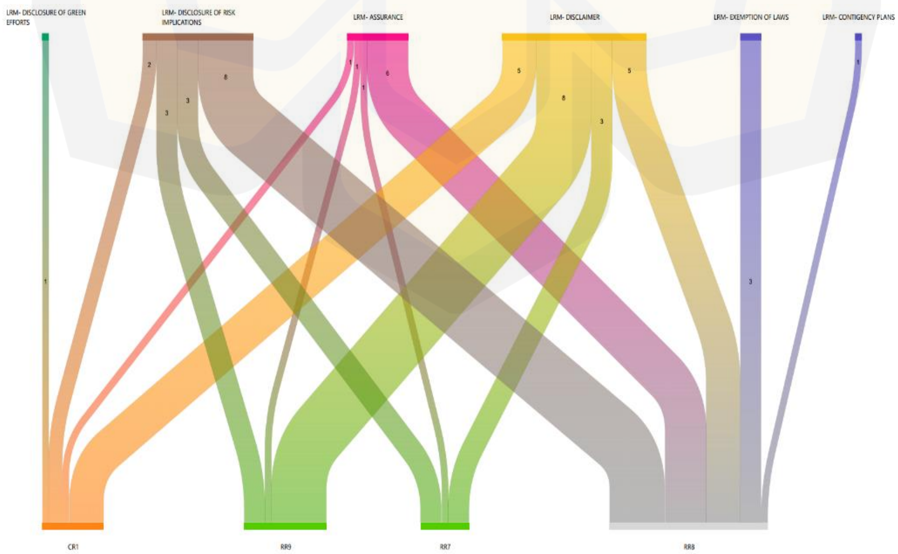
Orders; in curbing the Covid-19 spread for *sukuk* issued from 2019 onwards and the uncertainties of the changes.

c. (RR9) Changes in International Regulatory Conditions Risks: Changes in regulatory conditions internationally that may have adverse impact on the *wakalah sukuk*. For Issuers that hold businesses or investments outside of Malaysia, this risk is associated with laws, regulations, e.g., taxation laws of that foreign countries. This risk also includes changes in the foreign government current regulations and policies in curbing the Covid-19 spread for *sukuk* issued from 2019 onwards and the uncertainties of the changes. This type of risk is reported in the IC as "Political, Economic and Regulatory Considerations" with the inclusion of "other regions", "Malaysia and other countries in the region" or ", changes in political, economic, business and regulatory conditions domestically and internationally".

Table 4: Code-Code Occurrence Analysis of the Climate-related Disclosure Practices in the Selected *Wakalah Sukuk.*

	● CR1 Gr=9	○ RR8 Gr=23	● RR7 Gr=7	● RR9 Gr=12	Total
● DISCLOSURE 1_ASSURANCE Gr=9	1	6	1	1	9
● DISCLOSURE 2_CONTIGENCY PLANS Gr=1	0	1	0	0	1
● DISCLOSURE 3_DISCLAIMER Gr=21	5	5	3	8	21
● DISCLOSURE 4_DISCLOSURE OF GREEN EFFORTS Gr=1	1	0	0	0	1
● DISCLOSURE 5_DISCLOSURE OF RISK IMPLICATIONS Gr=16	2	8	3	3	16
● DISCLOSURE 6_EXEMPTION OF LAWS Gr=3	0	3	0	0	3
Totals	9	23	7	12	51

Figure 2: Sankey Diagram of Code-Code Occurrence Analysis, i.e. Climate-related Disclosure and Climate-related Disclosure Practices.



In addition to the disclosures of the risk, it was found that each of the disclosures is associated with certain strategies and risk management techniques. Table 4 and Figure 1 above indicate that there are six climate-related disclosure practices used in the *wakalah sukuk* documents. Details are as below:

a. (CR1) Compliance to Environmental Laws Risk:

i. CR1 ASSURANCE: This risk is associated with an assurance given by the Issuer towards its compliance with the environmental laws risk. This technique is employed in 3 out of 10 Issuers which disclosed this risk.

ii. CR1 DISCLAIMER: This risk is associated with a disclaimer. In regards to this, the Issuer gives no assurance that the existing strategies and precautions taken can successfully mitigate the risk. 5 out of 10 Issuers employed this technique.

iii. CR1 DISCLOSURE OF RISK IMPLICATIONS: This risk is associated with a disclosure of the risk implications. Instead of using an assurance and a disclaimer, the Issuer highlights the adverse impacts of the risk to raise the attention of the potential investors.

iv. CR1 DISCLOSURE OF GREEN EFFORTS: As seen in 7.A., the Issuer employs a disclaimer to avoid the liabilities arising from non-compliance to the environmental laws. However, the disclaimer is accompanied with 'green efforts assurance', i.e., "Third-party consultants and accredited laboratories are engaged to test environmental samples to ensure the prescribed limits enforced by the Department of Environment are met'.

b. (RR7) Environmental Law Risk:

i. RR7 ASSURANCE: The risk is associated with an assurance. In this view, the Issuer assures that necessary actions have been taken, or the Issuer gives indirect assurance, e.g., Issuer states that no current or existing violations of the laws that can create environmental law risk.

ii. RR7 DISCLAIMER: The risk is associated with a disclaimer. In this view, the Issuer disclaim the liabilities that may arise from the environmental laws, future laws or regulations and different interpretations of the existing environmental laws or regulations that may impose additional material environmental liabilities towards the Issuer. The disclaimer may also include disclaimer over third party liability, e.g. contractor, as indicated in 12.A.

iii. RR7 DISCLOSURE OF RISK IMPLICATIONS: Some Issuers do not employ assurance and disclaimer but they disclosed the risk implications, e.g., the risks may result in the claim for of damages, imposition of fines, criminal sanctions or the suspension or cessation of the facilities and operations of the Issuer. However, it was also found that only in 12.A. that assurance and disclosure of risk implications have been employed concurrently.

c. (RR8 & RR9) Changes in Domestic and International Regulatory Conditions Risks:

i. RR8 EXEMPTION OF LAWS: RR8 include risks arising from the changes in regulation due to the Government control over the Covid-19 spread. Therefore, some Issuers have disclosed the legal exemption that they enjoyed during the Covid-19 Movement Control Order's period to instill confidence in the potential investors towards the business and operation of the Issuer. Thus, legal exemption, particularly due to 'essential service' status, maybe perceived as LRM technique as well.

ii. RR8 CONTIGENCY PLANS: As found in 12.A., the disclosure of the risk is associated with certain contingency plans. It was stated by the issuer that due to the risks a comprehensive business continuity plan has been prepared to identify various mitigation measures to moderate the impact of COVID-19. Some of the measures indicated in the document were providing rebate to the purchase price of its residential properties, providing rebate in respect of rental payment of its retail lots and commercial buildings as well as exercising a more prudent management of its cash flows from operating, investing and financing activities. These plans are to ensure operational continuity were specifically disclosed in relation to the regulatory condition changes due to Covid-19.

iii. RR8 and RR9 ASSURANCE: The disclosure of these risks is associated with an assurance. In this regard, the Issuer used assurance statement towards the risk, e.g., the Issuer gives assurance the overall outlook for its business and operation is promising despite the changes in the regulatory conditions.

iv. RR8 and RR9 DISCLAIMER: These risks are disclosed and at the same time, disclaimed by the Issuer. This disclaimer is frequently employed in a way that the Issuer gives no assurance that the changes or adverse developments in the domestic and international regulatory conditions will not have adverse effects towards the Issuer business, financial position and operation. Some Issuers also give assurance that necessary precautions have been taken, particularly in relations to the changes in the regulatory conditions due to Covid-19, nonetheless the adequacy and effectiveness of the precautions are disclaimed by the Issuer.

v. RR8 & RR9 DISCLOSURE OF RISK IMPLICATIONS: Under some *wakalah sukuk*, these risks are disclosed without disclaimers. Nonetheless, the Issuer has disclosed the implications of the risks towards the Issuer business, financial position and operation.

6. Conclusion and Recommendation

TCFD is a global industry-led task force under the Financial Stability Board that was established to develop voluntary consistent disclosures of financial risks related to climate change. In 2017, the task force has made its final recommendations on climate-related disclosures. In TCFD (2017), four widely adoptable recommendations were highlighted by the task-force on climate-related financial disclosures that should be applicable to organizations across sectors and jurisdictions particularly to financial-sector organizations, that may include banks, insurance companies, asset managers as well as asset owners. These voluntary consistent disclosures are recommended so that it will benefit many stakeholders, e.g., investors, lenders etc. The recommendations by the TCFD are:

1) Disclosure of climate change in the organizations' mainstream financial filings;
2) Disclosure of climate change under four themes: 1) governance, 2) strategy, 3) risk management and 4) metrics and targets[1].
3) Disclosure of climate change scenarios.

On the other hand, CCPT is among the earliest response of the Malaysian regulator towards climate change, besides the Value-based Intermediation Financing and Investment Impact Assessment (BNM, 2018) and Joint Committee on Climate Change (JC3). As outlined in para 1.7. of CCPT, the purpose of the guidelines is to provide a principle-based taxonomy for financial players on how to assess and categorize their economic activities based on the extent to which those activities meet the climate objectives, particularly in promoting low carbon economy. Simultaneously, the principle-based taxonomy is also perceived to be the initial platform to develop standardized classification and reporting of climate-related exposures to support financial players' risk assessments (BNM, 2021b).

As indicated in CCPT and TCFD, there are three types of climate change, i.e., the physical risk, transition risk and liability risk. Physical risk is defined as a risk that arises from climate-related events that are acute and causes long term shift. In TCFD, this risk is categorized into two: 1) Acute risk (e.g. frequent natural disasters like hurricane and cyclones), and 2) Chronic risk (e.g. prolonged higher temperature) (TCFD, 2017). These risks are considered financial risks because they may cause damage in property, reduce productivity and disrupt trade (BNM, 2021b). Transition risk is a risk that resulted from adjustment to a low-carbon economy. The adjustment to be made may be due to changes in public policy and strategy, legislative and regulatory frameworks, technological advancements as well as changes relevant stakeholders' behaviour (BNM, 2021b). Liability risk is a risk arising from the legal implications, i.e., claims on damages and losses incurred from "inaction or lack of action that results in the effects of physical and transition risks" and it is called as 'climate-related liability' (BNM, 2021b). As found in TCFD (2017), the liability risk was embedded within the transition risk. The transition risk was categorized into four: 1) Policy and legal risks, 2) technology risk, 3) market risk and 4) reputational risk.

Our analysis was initially made on all keywords search using appropriate terms in both the IM and TD. The result of the keyword search has yielded two types of climate change, or climate-related disclosures on the risk, i.e., compliance risk and regulatory risks: 1) environmental law risk and 2) changes in local regulatory conditions risks and 3) changes in international regulatory conditions risks, mainly from the IM. Climate-

[1] In the TCFD, the themes are described as follow: "1) Governance: The organization's governance around climate-related risks and opportunities; 2) Strategy: The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning; 3) Risk Management: The processes used by the organization to identify, assess, and manage climate-related risks; 3) Metrics and Targets: The metrics and targets used to assess and manage relevant climate-related risks and opportunities".

related disclosure was not found in TD as initially anticipated. Based on these disclosures, it can be concluded that the disclosed risks only fall into two types of climate change, i.e., transition risk and liability risk. Considering various backgrounds of Issuer involved in the dataset, including those directly involved in agriculture, power plants as well as those indirectly involved in water, oil and gas industry, there is still inadequate disclosure available on physical risk even though the risks should be inherent within certain Issuer businesses, e.g., agriculture, power plants, water, oil and gas industries.

In addition to the climate-related disclosure practices as depicted in Table 4 and Figure 1, the six types of disclosure practices may be regarded as minimally in line with the TFCD recommendations on the four themes disclosures: 1) Governance, 2) Strategy, 3) Risk Management and 4) Merits and Targets. Under the first theme, the financial players are recommended to disclose the governance developed to address the climate-related risks. Based on the analysis or the six types of disclosures, there is insufficient evidence to indicate that disclosure under the first theme was made.

Under the second theme, the financial players are recommended to disclose the actual and potential impacts of the climate change as well as opportunities for the financial players towards their business, strategy and financial planning. Based on the analysis, it can be noted that some strategies were evident through:

1) Disclosure 2 - Contigency Plans, where certain contingency plans were highlighted to overcome the potential impacts of climate change.
2) Disclosure 5 - Disclosure of Risk Implications, where the actual and potential impacts of the climate change were disclosed,
3) Disclosure 6 - Exemption of laws; where the Issuers disclosed the opportunities that they gained through the exemption of laws, i.e., exemption given by the government for the Issuers to operate amidst the Movement Control Order (MCO) mainly due to the nature of the Issuer's business as essential services.

Under the third theme, the financial players are recommended to disclose the processes employed by the financial players to identify, assess, and manage climate change. It was found from the analysis that this disclosure was also evident but minimal. This can be found in Disclosure 4_Disclosure of Green Efforts, where in 7.A., some of the processes to ensure compliance with the environmental laws was disclosed. The processes involved reporting by third party consultants and accredited laboratories. In Disclosure 1 -Assurance and Disclosure 3 - Disclaimer, we found that these are risk management techniques employed by the Issuer to manage the climate change. Although assurance is a risk management technique may not be an effective technique, disclaimer was found to be an effective clause to exempt, if not reduce the liability to be borne by the Issuers as seen in the case of CIMB Bank Bhd v Maybank Trustees Bhd and other appeals [2014] MLJU 117[2]. In addition to these, further analysis on the *wakalah sukuk* Information Memorandum has revealed that there was a use of force majeure clause in the 5 out of the 13 *wakalah sukuk*, i.e. in 1.A., 3.A., 4.A., 6.A. and 12.A.

However, climate change was disclosed in only four of them, i.e., 1.A., 3.A., 4.A. and 6.A. Some of the ways the disclosure was drafted are:

> *"An event of force majeure is an event which is not within the control of the party affected, which that party is unable to prevent, avoid or remove and shall include war and acts of terrorism, riot and disorders***, natural catastrophes** *and others…"*
>
> *"An event of force majeure is an event which is not within the control of the party effected, which that party is unable to prevent, avoid or remove which arises from or is attributable to any cause whatsoever beyond the reasonable control of the party so prevented, including, without limitation, nationalization, expropriation or other governmental actions; political instability, overall domestic and international economic conditions, outbreaks of viruses, epidemic, pandemic or other communicable diseases, postal or other strikes, global conflicts*

[2] These cases have shed some light on few aspects of *sukuk,* i.e. the distinguished duties of trustee and lead arranger in *sukuk,* the adequate fulfilment of condition precedent (CP) of the *Sukuk* Facility Agreement (SFA) as to discharge the *sukuk* lead arranger's duty, the effect of a disclaimer in *sukuk* Information Memorandum (IM), and the effect of indemnity clause of a trustees over the issuer and its exemption.

or act of terrorism, act of God, earthquake, tsunami, fire, flood, storm or any type of inclement weather, war, riot, civil commotion, any order restricting the movement of the public or the imposition of curfew or any other governmental action implemented pursuant thereto, changes in applicable laws of Malaysia and others. Force majeure events do not include economic downturn, non-availability or insufficient or lack of financing on the part of the Issuer. The occurrence of a force majeure event may have a material impact on the Issuer's financial and business operations"

While some of the clauses specifically mentioned disease outbreak, pandemic, endemic etc., others are general where only the inclusion of 'natural catastrophes' as one of the force majeure events was made, as seen in 1.A. and 3.A. Since force majeure acts as an exit clause, it heavily depends on the wording and drafting of the clause (Cheah and Radzi, n.d.). Therefore, to consider force majeure clause as a risk management technique, adequate concern must be put on its drafting. Nevertheless, it is evident that climate-related disclosure was also made within this clause.

Under the fourth theme, i.e., Metrics and Targets, the financial players are recommended to set certain metrics and targets as assessment standards in order to assess and manage climate change. As seen in the analysis in Table 4 and Figure 1, there is insufficient evidence to support that disclosure under this theme was made by any of the Issuers.

Based on these findings, we concluded that climate-related disclosure by the Issuers is still inadequate, particularly on physical risk as well as disclosure under the governance and metrics and targeted themes. However, it is noteworthy that the documents used in this study are *wakalah sukuk* Information Memorandum which are intended for mostly experienced investors[3]. Thus, disclosure of the climate change may be minimal considering the backgrounds of the prospective investors. As a matter of fact, this study also focuses on the climate-related disclosure, instead of climate change reporting. While disclosure involves merely the information on the Issuer background, business activities and financial position, reporting involves a wider spectrum on how an Issuer reports all the input and output of its business activities. Hence, the disclosures are minimal.

In sum, we found that the climate-related disclosure of the Issuers in this study is partially in line with previous studies. Similar to what was reported in Abhayawansa and Adams (2021), climate-related disclosure is inadequate, among others, due to minimal details on the climate change impacts and strategies as well as relevant risk management techniques. In term of governance of the Issuer and merits and targets set up by the Issuer, insufficient evidence was found to support the existing of the disclosure. As concluded by Lombardi *et al.* (2021), the inadequate reporting was due to the early phase of compliance by the companies to the climate-related disclosure based on the European Commission guidelines. In similar vein, it can also be concluded that minimal disclosure of climate change among the Issuers in this study may also be due to the nascent climate change assessment and requirement in Malaysia. Therefore, the findings of this study may be useful for future climate-related disclosure and reporting by the financial player, particularly financial institutions in tandem with the initiatives of SC and BNM to follow the global standards. Given the small sample and limited documents in this study, future study can consider including bigger sample of financial players of different backgrounds to assess the climate-related disclosure.

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[3] Includes Sophisticated Investors, who are described as "high net worth individuals (with net asset threshold of RM3 million, excluding the value of primary residence), high net worth entities and accredited investors" (SC, 2021)

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