

# CLIMATE CHANGE MITIGATION AND VOLUNTARY DISCLOSURE IN MALAYSIA'S LISTED PROPERTY COMPANIES

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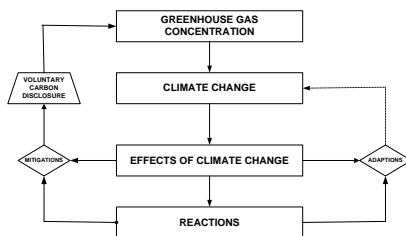
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## Graphical abstract



## Abstract

Climate change mitigation is a challenge faced by most nations of the world. The task is even more challenging in Malaysia considering the occurrence of sequence of floods within the past and the need to be a part of the developed economy by 2020 which needs environment protection. This paper examines the state of climate change mitigation and the practice of voluntary carbon disclosure in sustainable development practice among listed Property companies in Malaysia. Consequently the paper analyses policies and programs on-going in Malaysia to create an enabling environment for the implementation of climate change mitigation. From the studies, it can argued that Malaysia has made significant progress in setting up legal framework for the implementation of climate change mitigation and voluntary environmental disclosure, but critical mass is yet to be achieved. This was achieved as a function of Malaysia's membership to United Nation Framework Convention on Climate Change (UNFCCC), and ratifying the Kyoto Protocol and also participates in the Clean Development Mechanism; and further establishes nationwide ecological protection laws which are implemented in the government's Development Plans and development industry master plan. Lastly, the impetus given to the free market sector to be participants in mitigation through the Bursa Malaysia listing requirement that specifies corporate social responsibility reporting as part of the annual reports, with measurement, disclosure and management of emission integral part. The review allows us to infer that the Malaysia voluntary environmental disclosure and climate change mitigation practice in the property sector has made initial progress but there is need for more market driven motivation to be introduced so that more companies especially those in carbon-intensive practice would be involved.

Keywords: Climate change mitigation, voluntary disclosure, property

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## 1.0 INTRODUCTION

The rate of climate change in the last 50 to 100 years these changes, has been much larger and more rapid. The IPCC considers it "very likely" that human activity is the main cause of the rapid warming observed during this period and that climate change poses significant challenges to our way of life on Earth.

The human activities that occasion climate change include industrialization, agricultural development, deforestation and the burning of fossil fuels; these have released much larger amounts of greenhouse gases and at a much faster rate. This has the ability of disrupting the natural balance of atmospheric gases, creating a general trend of increasing the "heat-capture capacity" and warming the Earth's surface

(land and sea). This phenomena is "global warming" – which is the main factor driving climate change. Climate change mitigation is about the greatest challenge facing the world [1]. The challenge of climate change and its effect on the economy and on real estate properties and has generated so much discussion in the recent times. There is increasing apprehension that the availability and affordability of property flood insurance is foreseen to be limited under climate change as a study in Malaysia have shown that insurance companies are either refusing cover for properties in high flood-risk areas or increasing premium to provide flood the insurance [2]. Hence individual countries are looking for avenue to mitigate its effect. This includes setting up regulatory and market based initiatives to advances climate change mitigation.

Climate change and global warming, in many respects, has harmful effects on the environment and humanity. Industrial pollution is considered as the main causes of global warming. World leaders, environmentalists, customers, investors and other interested parties are seriously considering. That is why, today, companies face many challenges to prove they are cautious about environmental pollution and are responsibly in this context. For this reason, many companies around the world disclose greenhouse gas information and issues related to global warming activities in their annual reports. It is expected that these reports will improve its legitimacy in the eyes of society.

In the last forty years, Malaysia has faced both increased temperature (around 0.180 C per decade from 1951) and the rise of sea level [3]. That is why Malaysia is taking several initiatives to address the negative effects of climate change and as a signatory to the UNFCCC and has also ratified the Kyoto Protocol with considerable urbanization that has affected the environment in Malaysia [4]. The main sources of GHG emissions in Malaysia are industries, power plants and others [4] so we can say that the activity of corporations is one of the sources that are responsible for climate change and rising temperatures in Malaysia. Though there is no legal mandatory requirement for corporate reporting on environmental disclosure in Malaysia. Bursa Malaysia has provided a framework for listed companies to practice corporate social responsibility. Reports on the social and environmental performance of companies are primarily a voluntary activity. Bursa Malaysia, on its Web site mentions the problems of climate change as a significant global problem. This study examines the climate change mitigation through the voluntary carbon disclosure channel as it is applicable to corporations within the real estate sector in Malaysia.

## 2.0 BACKGROUND TO THE STUDY

### 2.1 Previous Studies

The concept of Voluntary disclosure is initially developed from the accounting practice, it describes report which discloses more than the statutory requirements of a reports. The concept of voluntary environmental disclosure is a sub set of voluntary disclosure [5]. While voluntary carbon disclosure is an integral part of voluntary environmental disclosure. It is prepared for investors and other group of internal and external stakeholder [6]. The purpose of voluntary environmental disclosure is to curb information imbalance between the company management and the investor and reduce cost of stock assessment for economical investors [7, 8]. The political consideration given to environmental matters in communities is a function of social awareness and interest, and a combination of the two increases the pressure on organizations towards environmental information disclosure [9]. Voluntary environmental disclosure or in specific case voluntary carbon disclosure are used as a proactive tool by companies, to prevent the regulatory control, and to increase company's sustainability performance through a market driven model. Companies participate in voluntary carbon disclosure as an integral part of the annual sustainability report.

Voluntary environmental disclosure made its advent in 1989, and then became popular with companies around the world [10, 11]. From the information disclosed by companies, NGOs can assess the performance of companies and demand for greater improvement on environmental sustainability [12]. Shareholders will need to use their power to influence the companies towards sustainability [13]. Voluntary carbon disclosure is mostly discretionary in developing country, as stipulated in the provisions of the Kyoto Protocol; developing countries are at liberty to choose either to disclosure carbon information or not. Most of the findings in this area show progress of implementation of voluntary carbon disclosure in the developed countries, while others look at the factors that influence the decision to disclose. But the level of implementation of voluntary carbon disclosure and the progress in developing countries has not being adequately studied. The Carbon Disclosure Project has recorded increase in the number of companies participating in disclosure in the developing countries between 2007 and 2009 [14], and the need for an individual countries study on the level of participation in carbon disclosure and climate change mitigation programme in general. There are indications that the performance of developing countries in general is low when compared to those of developed countries.

Scientific evidence shows that greenhouse gas (GHG) emissions from human activities intensify global warming and climate change [15-17]. The United Nations has developed the Kyoto Protocol [18], an international treaty that provides mechanisms for a

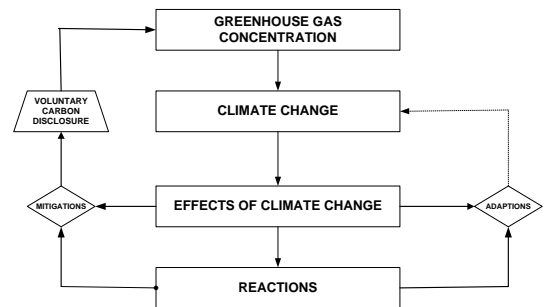
global fight against climate change through a combination of public policy, and industry innovations [19]. Nicholas Stern argues for a strong and urgent action against climate change, because the cost of timely action must be reduced by avoiding the effects of climate change [20, 21]. One of the most remarkable responses to climate change mitigation over the years has been the part of government initiatives to reduce greenhouse gas (GHG). This article investigates the progress of a national government in the climate change mitigation and analyses the wider effects to ecological management.

The total quantity of emission coming out from Asia and the Pacific is equal to 37% of the quantity of emission from the world, and there is a growth in the participation of ASEAN countries in environmental disclosure. There are reasons to believe that over the years the commitment of ASEAN countries to sustainability practice and voluntary carbon disclosure has improved. Most companies like Malaysia, Thailand, Indonesia, Singapore and the Philippines has in the recent past published sustainability report or allied report as part of their annual report. According to ACCA report sustainability reporting significantly increased in 2006 doubling the number of publication in the year before. The increased awareness of the public, media and civil societies on sustainability related issues, and the position of the government in creating an enabling environment have culminated to the increase in voluntary disclosure in ASEAN countries, with the companies becoming more responsive to corporate responsibility activities. Due to variation in economic, demographic, and social features, in addition to the geographic and climatic situation of ASEAN countries, they are considered the most susceptible region with respect to environmental disaster. The 2004 Indian Ocean Tsunami and 2008 Cyclone Nargis experience in the region exemplifies the susceptibility and the need for climate change mitigation. The risk of climate change will invariably increase the possibility of such disaster in intensity and frequency, with it resultant effect on the economies of the ASEAN countries, hence the need for adequate adaptation and mitigation measures [22, 23].

Malaysia is strategically positioned to participate in climate change mitigation programmes this is rooted in her experience of substantial flooding in the year 2006/2007, 2008, 2009 and another in 2011. These floorings include the Nina in 2007–2008, El Nino in 2009 and Johor flooding in 2011 [2, 24], and flooding are linked to climate change and global warming the results to increase in the sea levels. It was against this backdrop that it was [2] noted that the threat of climate change to Malaysia costal and river-side properties is huge as severity and frequency of flood increase in the coming years.. Furthermore, Malaysia is a member of the United Nations Framework Convention on Climate Change (UNFCCC) and has also ratified the Kyoto Protocol in September 2002, and participates in the Clean Development

Mechanism (CDM) a climate change mitigation programme for developing countries under the Kyoto Protocol [25]. Membership to these international treaties like UNFCCC and being a signatory to the Kyoto protocol comes with obligations to which Malaysia has to comply with. The 10th Malaysia Development Plan states the need for sustainability and climate change mitigation programmes [26]; this has helped to raise the awareness of climate change among corporations. Moreover, it has also established a National Policy on Climate Change for the implementation of climate change mitigation policies and programmes. Thus the needs to understand the trend of progress in climate change mitigation programme implementation.

## 2.2 Climate Change Mitigation and Voluntary Carbon Disclosure



**Figure 1** Framework for climate change mitigation with voluntary carbon disclosure [27] modified

Climate change mitigation is any efforts to reduce or prevent emission of greenhouse gases. Mitigation can mean using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behavior. It also includes any human actions and inactions to remove greenhouse gases (GHG) released into the atmosphere or to reduce their amount to reduce the risk and hazards of climate change to human life and property. As shown in figure 1 voluntary disclosure is as an essential part of climate change mitigation process The Intergovernmental Panel on Climate Change (IPCC) describes that climate change mitigation as a technological change and substitution that reduce resource inputs and emissions per unit of out. Mitigation involves the implementation of policies to reduce GHG emissions and enhance sinks. While climate change mitigation are efforts taken to act or prevent the emission of GHG or limiting future warming; it differs from climate change adaptation which are actions taken to manage the unavoidable impacts of climate change. Mitigation deals with the causes of climate change and adaptation handles the effects of the phenomenon [27, 28].

Corporate organizations are major actors in addressing climate change mitigation programmes, and in recent times are aware of the consequence of

climate change on the general economy as a result of the way their businesses are conducted. A good number of companies are participating in climate change mitigation activities and GHG emission reduction. The effect of climate change regulations, and the changes in demand by investors and consumer and supplier, is of high consideration by societies, [29]. What informed the decision of Malaysian companies to participate in climate change mitigation such as to disclose social and environmental information, given the low public awareness of such issues; Malaysian companies have been greatly influenced by trend among multi-national companies that are operating in Malaysia [30, 31]. While in advanced economies the reputation of the company is a motivating element for sustainable practice and disclosure [32-34]. The Mitigation performance of Malaysian companies is high relative to other ASEAN countries. As the Stock Exchange of Malaysia continue to maintain its listing requirement to include a corporate responsibility activity, with four major component of the Bursa Malaysia corporate social responsibility Framework, which are the Environment, the Workplace, the Community and the Marketplace, the future of corporate carbon information disclosure will further improve.

Carbon disclosure which is described as "civil regulation" practice [35] is considered a preferable method of climate change mitigation for companies as there are limited pressures in the practice. Carbon disclosure as a part of an overall climate strategy [36], is different in that it involves direct targeting of companies; instead of the use of state powered legislative policies [37, 38]. A fundamental element in the implementation of information disclosure is setting standards, which aids assessment by investor, and comparison among participants. It also provides target for recognition of performers in the practice [39, 40]. Disclosure shows the progress companies are making in measurement, alleviation and establishing responsibilities [37, 41]. The role of the market and company decision to participate in the operation is crucial for the success of the scheme [42]. Furthermore it exerts pressure on companies to disclose for responsibility and transparency.

### 3.0 THEORETICAL FRAMEWORK

#### 3.1 Review of Theories

One of the most main theories that explain why companies go for voluntary information disclosure is the theory of legitimacy. The theory of legitimacy [43] "says that organizations continually seek to ensure that they are perceived as functioning within the limits and norms of their societies, that is, they try to ensure that their activities are perceived by outside parties as "legitimate". Companies can be considered as social units. In order to operate and survive, they have to

deal with people in society. So there is a social contract between the organization and society. Just as individuals in society, companies must also maintain rules, regulations and the company's ethics. It is also important that business activities should not harm society in any way. From a normative notion, companies should not create harm to society. From a strategic point of view, the company must ensure that the perception of the company in the business remains good. Any perceived bad or wrong about the company will eventually create a legitimacy gap. A gap of legitimacy may be dangerous to society. Company may reject their product. The company may face legal action. The community may want the company to be closed. That's why companies try to meet the social expectations. For this reason, companies are also focusing on the management of the impressions they made to the public. In many ways, the voluntary carbon disclosure allows companies to manage their impression. Carbon disclosure reports contributed to this Image management. Climate change is one of the most talked about issues these days. This becomes of media coverage and in many ways industries around the world are blamed for polluting the environment and contribute to global warming. That is why companies try to manage perspective and maintain legitimacy. The reports on these issues can help minimize legitimacy gap.

#### 3.2 Voluntary Disclosure And Climate Change Mitigation Programmes In Malaysia

There has been a rise on sustainability reporting in the last twenty years, both in developing and developed countries. Most of the reports are from companies in Europe (45%), Latin and Northern America (28%), Asia (20%), while relatively small numbers from Oceania (4%), and Africa (3%). Primarily, the real estate sector has a negative impact on the environment; so there is a need for property companies to be more environmentally and socially responsible [44]. Studies has shown that buildings consume up to 50 per cent of energy consumption, 16 per cent of water consumption, 50 per cent of CO<sub>2</sub> emissions, 40 per cent of solid waste, and 40 per cent raw materials [45]. Therefore, these impacts have enormous pressure on property developers, investors, owners and tenants. Malaysia is one of an emerging economy in the world; it has become a popular destination for investors around the world in real estate investing. To conform to this, the industry and its management are under tremendous pressure to make sustainability principles a practice. The Malaysian government has a vital interest to adopt sustainable practices within the property industry in Malaysia and the companies operating in the country.

Malaysia has ratified the United Nations Framework Convention on Climate Change and the Kyoto Protocol, which aims to reduce the amount of greenhouse gas (GHG) emissions to address global warming. Malaysia is not included in Annex I countries,

so is not obligated to reduce its GHG emissions. But the United Nations Development report says during the period 1990-2003 carbon dioxide emissions in Malaysia increased by 221 per cent. This growth rate was among the 30 largest emitters of greenhouse gases. This rapid growth in carbon emission occurred despite that Malaysia has ratified the Kyoto Protocol and has taken several initiatives to use renewable energy and means reduce emissions. "With a population of about 27 million people, Malaysia is ranked as the 26th largest emitter of greenhouse gases in the world. Malaysia has undertaken a series of measures to reduce emissions of greenhouse gases by improving public transport and the introduction of cleaner fuels such as natural gas and biofuels fuels. The country is also actively participating in the Clean Development Mechanism of the Kyoto Protocol. Malaysia has developed programs to increase the share of renewables in its energy supply matrix [46]. Emissions of these projects are estimated at 1,615,972 tonnes of CO<sub>2</sub> equivalent per year [47]. The country also has programs to adopt measures and technologies such as the replacement of oil and coal to natural gas and the adoption of clean coal technologies for CO<sub>2</sub> emissions [25].

The companies in Malaysia had started reporting their GHG emissions voluntarily and their information is included in the Annual Reports. In view of the growing importance of carbon reporting, a 6-month project on developing a national carbon disclosure programme (NCDP) agenda was inaugurated by the Ministry of Natural Resources and Environment (NRE) and the United Nations Development Programme (UNDP) in year 2012. In August 2013, the NRE and UNDP Malaysia initiated a 2-year program for a National Corporate Greenhouse Gas (GHG) Reporting Programme for Malaysia (MYCarbon). This programme was launched on 3rd December 2013 in pursuant to guarantee the 2009 United Nations Summit on Climate Change in Copenhagen, where Malaysia promised a 40 per cent reduction in terms of greenhouse gas emissions intensity of GDP (gross domestic product) by the year 2020, compared to 2005 levels. With such a disclosure data, it gives the opportunity to measure the progress toward achieving the emissions reduction announced by the Malaysian government [48].

The United Nations has encouraged more companies in Malaysia to join the 23 companies currently involved in signaling through MYCARBON; a proactive response to the challenges of climate change. It assists the Government and the private sector to understand and measure its sources of greenhouse gas emissions, as for the given scope; as more companies participate in the program, the more data will be collected, which will contribute to the formulation of government policies on climate change based on science and evidence. The 23 companies that participated in 2014 signal a good start. With the necessary support and a greater awareness the program, participation will increase [48].

Another important means that the government has used to promote climate change mitigation through the green building practice, between the public and private sectors in Malaysia is the introduction of a series of tax exemptions and reductions. Notable among the tax incentives are: 1) the business tax incentives for businesses to generation and storage of renewable energy from biomass, hydropower and solar energy. This is given either in form of ten years 100% statutory income tax exemption for companies granted pioneer status or as five years investment tax allowance on qualifying capital expenditure on green certification. It also includes import duties and sales tax exemption on equipment used to produce energy from renewable sources not produced locally and sales tax exemption on equipment purchased from local producers; 2) company tax incentives for generation of renewable energy for own consumption. This involves investment tax allowance on qualifying capital expenditure incurred in the process of GBI certification; 3) corporate tax incentives for companies providing efficient energy conservation services. Similarly, this is given in the form of 100% statutory income tax exemption for ten years or as investment tax allowance on qualifying capital expenditure on GBI certification. In the same way companies which incur capital expenditure for energy conservation for own consumption receive investment tax allowance on qualifying capital expenditure on GBI certification; 4) Income tax/stamp duty incentives for buildings that obtain GBI Certificate. This concerns tax exemption on costs of additional capital incurred by a person or company to obtain the GBI certificate; and the stamp duty exemption on instruments of transfer of ownership for property buyers in which the exemption amount is equivalent to the additional cost to obtain the GBI certificate [49, 50].

The sets of environmental policies and regulations in Malaysia are among the best when likened to other ASEAN countries [51]. Malaysia's set of legislation towards environmental and climate change mitigation efforts; include the National Policy on the Environment 2002, National Green Technology Policy 2009, National Climate Change Policy 2009, Green Index Malaysia. This is evident in the government development plans, such as Draft Kuala Lumpur City Plan 2020 [52] and Construction Industry Master Plan 2006-2015 [53], where great emphasis was placed on the principles of sustainable. The need for the property sector and construction industry in general, to balance the need for socio-economic benefits with the quest for environmental systems, to prevent environmental disaster, is the challenge facing the sector.

It is expected that the robust environmental regulation legislation will translate to enabling environment sustainability practice and climate change mitigation. The demands for sustainability practice requires that buildings should be built in higher quality, with access to greenery, accessibly to public transport, designed to reduce energy

consumption, with amenities for social contact and clean safe and energy efficient residential building. While there is evidence to show that developers' are interested in sustainable development, yet projects that have implemented such interest are still few, and the targets for such implementation of sustainable development is among the high end buildings. [54]. It is imperative for the success of climate change mitigation that the principle are not restricted by cost of the building and socio-economic status of the housing. It is yet to be known how the actions and policies of government affect the performance of companies in climate change mitigation disclosure and activities [55]. The requirement that housing developers should protect the environment and maintain sustainability in the economy is an integral part of Malaysia National policy (Singh, 1994), and the 10th Malaysia Plan also stipulates the need for green building technology and building design to meet government goal of promoting sustainability and environmentally friendly projects [26]. The target of the Malaysia government is to ensure the protection of the country's environmental assets and ecological resources without conceding on the interest of future generations [26].

The state of disclosure [56] shows that some publicly traded companies in Malaysia did well in sustainability reporting; though, some companies performed poorly, with most indicating a poor awareness of sustainability issues that were relevant to your business. The conservation of the environment is given less weight than economic performance has always been a priority. Regarding the real estate sector; energy efficiency and climate change are the main highlights of the report and other issues of sustainability concerns are the provision and use of sustainable material [57]. In line with the national policy, Malaysian developers should pay attention to the protection of the natural environment and maintaining the sustainability of economic development [58]. The Tenth Malaysia Plan reiterated that houses have to incorporate green building technology and design in order to meet the overall government program to promote sustainable and environmentally friendly with the environment [26].

#### 4.0 CONCLUSION

Malaysia has made considerable progress in voluntary carbon disclosure and climate change mitigation measures; this is evident when compared with the performance of other countries in the ASEAN region. This performance is a joint function of her membership and participation in international protocols, and setting up national regulatory provisions with enabled legislations and policies for environmental protection.

The contribution of the private corporations in the mitigation programmes through corporate social responsibilities disclosure initiated by the stock exchange market listing requirement went a long way

towards the achievement of Malaysia current status with environmental protection and disclosures. Malaysia also ratified the United Nations Framework Convention on Climate Change and the Kyoto Protocol, which are aimed to reduce the amount of greenhouse gas (GHG) emissions to address global warming, through international collaboration.

Other sets of environmental policies and regulations implemented in Malaysia are the National Policy on the Environment 2002, National Green Technology Policy 2009, National Climate Change Policy 2009, and Green Index Malaysia. The National Corporate Greenhouse Gas (GHG) Reporting Programme for Malaysia (MYCarbon) was launched on 3rd December 2013 to achieve reduction in terms of greenhouse gas emissions intensity of GDP. The progress is shown as companies in Malaysia had started reporting their GHG emissions voluntarily and the information is included in the Annual Reports and; in the 2014 MYCARBON reported that 23 companies currently signaled through the programme which is a significant progress. Though, some companies performed poorly, with most indicating a poor awareness of sustainability issues that were relevant to their business.

The government has further encouraged mitigation through the promotion of green building practices, by the introduction of a series of tax exemptions and reductions as incentives for companies.

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