Carbon Trading in Malaysia: Review of Policies and Practices

Azlan Amran,* Zainorfarah Zainuddin and Suhaiza Hanim Mohamad Zailani
Graduate Business School, Universiti Sains Malaysia, Penang, Malaysia

ABSTRACT
The idea of trading greenhouse gas emissions has become an important tool to tackle the problem of global climate change. Malaysia has started to strive towards a low carbon economy through various policies and initiatives. The main objective of this article is to document the exiting policy developed by the Malaysian government and review some of the current practices pertaining to the Clean Development Mechanism (CDM). The objective of such analysis is to understand what initiatives have been taken by the Malaysian government. Challenges and barriers will be documented for further research to provide a solution. In addition, it will also provide insight into the current CDM practices in Malaysia. It aims to provide a useful reference that could act as a foundation for future study to explore these issues further, particularly in the Malaysian context. It could also be an important reference for practitioners starting a CDM project. Although a review of the existing policy indicates that Malaysia has undertaken several initiatives, much more can be done. More research is now being carried out in order to provide support to the government. Stakeholder engagement is one way of acquiring input for the government to formulate a new policy. The main stakeholders – industry and the bankers – need to be engaged and made to understand to ensure smooth implementation and easy acceptance. Malaysia can also look to the advanced countries if necessary and modify what it learns for the Malaysian context. Copyright © 2012 John Wiley & Sons, Ltd and ERP Environment.

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Introduction

The effect of greenhouse gases has resulted in uncertainty in the climate. This includes an alarming problem of what is known as global warming. Similar to the economies of neighbouring countries, the Malaysian economy is highly dependent on industry and agriculture, both of which contribute to the problem. If the pace of development experienced by Malaysia and other Southeast Asian countries in recent decades continues, and is not properly managed, it will worsen this problem. According to a recent article, the temperature has been steadily increasing over the last 40 years (Li, 2009). The temperature hikes range from 0.5 per cent to 1.5 per cent, depending on the location. Kuala Lumpur reported the highest increase compared with other cities in Malaysia. Based on the current concentration of carbon dioxide, a 2 per cent increase of temperature has

*Correspondence to: Azlan Amran, Graduate Business School, Universiti Sains Malaysia, Penang, Malaysia. E-mail: azlan_amran@usm.my

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been confirmed (Li, 2009). Such a phenomenon, if it continues, will affect the ecosystem, flora, fauna, hydrology and rainfall pattern.

The Intergovernmental Panel on Climate Change (IPCC) and the National Academy of Science agreed on three points that relate to this condition (Claussen, 2002): the earth is warming; this is caused by unsustainable human activity and the warming trend is likely to accelerate in future. It is clear that mankind’s activities have a significant effect on the earth’s climate. This global problem has created new arrangements for solving the warming problem, with the expectation of high participation and collaboration between public and private organizations. Such new arrangements have resulted in a cost being levied against the environment, which can no longer be treated as a free good, particularly to those countries that ratified the Kyoto Protocol. The original idea for emission trading came from Canadian economist John H Dales, as published in his book *Pollution Property and Prices* (Braun, 2009).

Since then, the idea of trading greenhouse gas (GHG) emissions has become an important tool to tackle the problem of global climate change. Although there is still uncertainty about proper implementation, this instrument has been accepted and practiced by certain countries, including Malaysia, which has started to strive towards a low carbon economy through various policies and initiatives (Oh and Chua, 2010). In the management literature, there are now initiatives to view such practices from various aspects, such as the accounting of carbon trading, and the governance and business reaction for such practices. The main objective of this article is to document the existing policies developed by the Malaysian government and review some of the current practices pertaining to the Clean Development Mechanism (CDM), which is the only mechanism available for countries such as Malaysia to participate in carbon trading. This article will review previous literature and related government documents in the data collection. Further analysis of the literature will be carried out, the objective of which is to understand what initiatives have been taken by the Malaysian government. The challenges and barriers identified will be documented for further research to provide solutions.

The following sections present a background on sustainable development initiatives in Malaysia, followed by the market mechanism for climate change, which includes a discussion about the carbon emission policy in Malaysia as well as some brief comparisons with other Southeast Asian countries. This article then presents its findings about the organizations and practices of carbon trading.

**Sustainable Development Initiative in Malaysia**

Malaysia is currently undergoing a transformation to become a high-income economy with sustainable development in mind. To facilitate the transition and transformation of the Malaysian economy, all the incentives and measures were laid out in the 2010 Budget (yearly national budget announced by government), which will be the foundation for the development of the new economic model and the formulation of the Malaysian National Plan. The budget stresses the participation of the private sector in driving the economy and focuses on three key strategies to bring about this transformation – driving the nation towards a high-income economy, ensuring holistic and sustainable development, and focusing on the well-being of the people. In line with the new economic model, the government is promoting green technology and various initiatives towards sustainable development have been planned.

In April 2009, the Ministry of Energy, Green Technology and Water (MEGTW) was established during the Cabinet reshuffle, and thus the National Green Technology Policy was launched by the Prime Minister, Dato’ Sri Mohd Najib Tun Abdul Razak (Oh and Chua, 2010). The definition of Green Technology is the development and application of products, equipment and systems to conserve the natural environment and resources, and thereby minimize and reduce the negative impact of human activities. The National Steering Committee on Climate Change (NSCCC) has established a two-tiered organization for the CDM implementation in Malaysia (MGTC, 2009). The committees responsible for the CDM development report and its implementation include the Malaysian Green Technology Corporation (MGTC), formerly known as the Malaysia Energy Centre (PTM); the Malaysian Agricultural Research and Development Institute (MARDI) and the Forest Research Institute Malaysia (FRIM), which are responsible to the CDM secretariat, which is chaired by the Ministry of Energy, Green Technology and Water (MEGTW) and the Ministry of Natural Resources and Environment (NRE). However, according to MEGTW
(2009), the requirements in implementing the CDM projects in Malaysia must follow certain criteria that have been established by the NRE, which include (MGTC, 2009)

(a) minimizes degradation of the environment
(b) has zero or low greenhouse gas (GHG) emission
(c) safe for use and promotes healthy and improved environment for all forms of life
(d) conserves the use of energy and natural resources and
(e) promotes the use of renewable resources.

With the growing disposable income of Malaysians, total emissions will increase significantly if the lack of environmental awareness continues to persist. In order to reduce CO₂ emission, more campaigns for environmental and eco-friendly lifestyles such as practicing the 3Rs (reduce, reuse and recycle) should be encouraged, not only in the manufacturing and energy sectors, but from other perspectives as well. Therefore, according to the National Physical Plan (2005) and National Urbanization Policy (2006), promoting transit oriented development and compact cities will encourage greater use of public transport and non-motorized transport. Both of these policies will need to be translated into development plans at the local and regional levels, such as local plans or structure plans, so that they can be implemented by the local planning authorities. A reduction in energy intensity may be achieved by energy efficiency or material efficiency measures. With the setting up of the Malaysian Green Technology Corporation (MGTC), efforts to improve energy efficiency (EE) through the promotion of low energy building and passive architectural design in buildings will be further enhanced (MGTC, 2009). In addition to buildings, energy efficiency devices should also be used for vehicles and industrial processes. The most recent and largest project in energy efficiency is the Malaysian Industrial Energy Efficiency Improvement Project (MIEEIP), which is co-funded by domestic sources, the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP) (Mohamed and Lee, 2006). The project was implemented under the Ministry of Energy, Communications and Multimedia (MECM) with the Malaysian Green Technology Corporation (MGTC) as the main coordinator.

In addition, Malaysia also practices architectural perspectives in designing buildings and the landscape. According to one of Malaysia’s newspapers, the Star publication, the MEGTW through Minister Datuk Peter Chin Fah Kui said that Monier’s move was in line with the government’s campaign to promote energy efficiency and sustainable development. Monier is one of the green architecture companies promoting green buildings. Chin also said that Dato’ Sri Mohd Najib Tun Abdul Razak was expected to launch the energy efficient (Zero Energy Office) building in Bangi on 9 July, where he would be unveiling energy efficiency policies.

**Market Mechanism for Climate Change**

The UN Framework Convention on Climate Change (UNFCCC) was negotiated at Rio de Janeiro in 1992, and through several mandates the landmark agreement on climate change was established in Kyoto, Japan, in December 1997. Only 76 countries ratified the protocol as of December 2009. The Kyoto Protocol covers two groups of countries, namely all the developed countries in the Organisation for Economic Cooperation and Development (OECD) in the first group, and economies in transition in the second group (which is by default known as non-Annex I countries). Examples of Annex I countries include Australia, Canada, the United States, Germany, Japan, Ukraine and Russia (Kolk and Pinkse, 2008). Malaysia and other Southeast Asian countries belong to the non-Annex I group.

The Kyoto protocol provides three mechanisms for the countries to meet respective emission targets at low economic cost. However, only the third mechanism is applicable for non-Annex I countries. The third mechanism is the CDM, which allows countries in Annex I to undertake emission reduction projects in the developing countries (non-Annex I countries), and the credit obtained can be used for compliance with its commitment. The CDM enabled developing nations including Malaysia to participate in the trading by selling carbon credits, termed ‘certified emissions reductions’ (CERs) to parties with emission commitment (Boyd et al., 2009).
Emissions Policy in Southeast Asia

Southeast Asia, a small region in Asia, with a population of 512 million, or 8 per cent of the world total, emitted a little over 1 billion metric tons (bt) of carbon dioxide (CO₂) in 2008, or about 4 per cent of global energy-related emissions. According to the recent report on the Copenhagen UNFCCC, dated 26 December 2009, the released report from the Asian Development Bank (ADB) shows that Southeast Asia is likely to suffer more from climate change than elsewhere in the world. There will be considerable economic costs too, with a projected 7–8 per cent loss in GDP (gross domestic product), unless climate change is addressed (UNFCCC, 2009). However, the policy is still to be adopted for the development of the international climate regime. The lessons learnt in formulating the coordinated climate change policy at the European level, in particular the failure of the introduction of the carbon-energy tax in the early 1990s, have led to a reflection on alternative policies that are also efficient and appropriate for the market conditions. This shows that the developing countries in Southeast Asia still aim to provide an efficient way to progress towards a low-economy environment in the field of energy savings and renewable energy systems in the future.

In Southeast Asian countries, the CDM is an important implementation tool of the Kyoto Protocol and an opportunity to underpin sustainable development in developing countries. Based on the International Institute for Sustainable Development (IISD), the dual goals of the CDM are to promote sustainable development in developing countries and to allow industrialized countries to earn emission credits from their investments in emission reducing projects in developing countries. Although ASEAN has adopted general integrated policies to launch energy and environmental programmes throughout the region, the lack of appropriate legislation and specific policies for significant energy sector reform is slowing progress (Yu, 2003).

The importance of energy as an element in a sustainable economy was highlighted when energy was given priority at the World Summit on Sustainable Development in August 2002. Without effective energy policies, the environmental and social impact of the energy sector will cripple attempts to move towards sustainable development (Spalding-Fecher et al., 2005). In the context of developing countries in Southeast Asia, other developing countries such as Indonesia, Thailand, the Philippines and Singapore are also promoting an emission policy in their various environmental policies, not only based on energy but also in other sectors as well. The CDM has come a long way both in Malaysia and within this small region in the oil palm industry as one of the CDM projects. It serves not only as a tool for combating climate change but also as an important incentive package to fund developing countries in sustainable development as well as in providing a continuous source of business opportunities for corporations that are designed to encourage investment in and the transfer of environmentally safe technologies that reduce the emission of greenhouse gases.

The CDM in Southeast Asian developing countries has been successful in stimulating renewable energy take-up and greenhouse gas abatement. It has helped in these areas because it is able to be used in discrete projects. This highlights the effectiveness of the CDM as an effective mechanism for encouraging the use of renewable energy in developing nations, particularly in Asia. The main objectives of the policy are, first, to achieve a clean, safe, healthy and productive environment for present and future generations, second, conservation of the country’s unique and diverse cultural and natural heritage with effective participation by all sectors of society, and, lastly, sustainable lifestyles and patterns of consumption and production (MOSTE, 2002). However, the CDM projects require a longer-term viewpoint to ensure that developing countries are able to grow economically and eliminate the poverty issue, and, hence, do not ignore the possibility of deep and costly emission cuts that will be important in mid-century.

The purpose of the CDM is threefold: (i) to contribute to the ultimate goal of the United Nations Convention on Climate Change (UNFCCC) to stabilize the GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the global climate, (ii) to support Annex I countries in achieving compliance with their emission reduction targets and (iii) to assist Non-Annex I countries in achieving sustainable development. The currently ongoing development plans, and several national policies, reveal programmes that directly address or indirectly contribute to managing issues of climate change adaptation and mitigation (Pereira and Tan, 2008). Principally, the CDM allows emission reduction projects that contribute to the sustainable development objectives of the host country to benefit from the GHG emission reduction through the sale of the
certified emission reductions (CERs) rising from the projects. This will then be utilized by the investing companies to meet their compliance commitment.

**Carbon Trading Policy in Malaysia**

The role of economic growth and improving the lives of the people is significant in Malaysia, which is a fast growing nation in the Southeast Asia region. Currently, Malaysia is one of the signatories of the Kyoto protocol and a member of the G77 and other climate change associations. Malaysia is undergoing a rapid industrialization process and has plenty of investment in manufacturing and infrastructure development and, hence, has a high demand for energy consumption locally and worldwide (FRIM, 2003). The rapid economic growth places a heavy demand and stress on resources and means that Malaysia needs a continued dependence on energy, in particular on fossil fuel and other alternative energy sources, which is important to propel further growth. Although Malaysia enjoys relatively large tracts of natural tropical forests over almost 60% of its total land area, just like other developing countries, some of the forest areas may be converted into agriculture and urban use to generate job opportunities for the growing population. Furthermore, without proper control, the level of construction and associated exploitation of natural resources, such as forests for timber, housing and industry, will exacerbate the environmental problems (Ibarahim, 1999). Moreover, the pressure for more forested land and peat land to be converted into plantations is becoming more serious with the rise in crude palm oil (CPO) prices and the hype over bio fuel and oil palm ventures (UNCTAD Report). The fact remains that peat and forests are vital carbon sinks, and destroying them will be a significant source of carbon emission.

According to a recent UNFCCC (2009) report, Malaysia agreed to reduce its carbon emissions by 40 per cent by 2020 with support from developed countries. Prime Minister Dato’ Sri Mohd Najib Tun Abdul Razak said the cut was conditional on receiving the transfer of technology and adequate financing from the developed world. He announced at the Copenhagen UNFCCC, on 16 December 2009, that Malaysia is adopting an indicator of a voluntary reduction of up to 40 per cent in terms of emissions intensity of GDP by the year 2020 compared to 2005 levels (Chance and Ahmad, 2009).

According to Brown and Corbera (2003), the Kyoto Protocol has been treated as part of the social dimension to the sustainable development concept. By using market-based mechanisms, such as the CDM, carbon will be cost free in developing countries as opposed to developed countries, which, in turn, will provide advantages and opportunities in production. Furthermore, based on this global trading, developing countries are moving towards green technology industrialization and environmental effectiveness.

The inception of the CDM of the Kyoto Protocol under the UNFCCC aims at fostering the technology transfer for global warming abatement from industrialized countries to developing countries and could reduce the carbon emissions based on the targeted amount of 40 per cent by 2020 (UNFCCC, 2009). The 2011 Budget speech by Prime Minister Dato’ Sri Mohd Najib Tun Abdul Razak stated that Malaysia is of the view that the CDM can create opportunities for investment in projects on GHG emission reductions, thereby contributing to both the economic and environmental well-being of the country (Prime Minister’s Budget Speech, 2011). The government is committed and will continue to develop green technology to ensure sustainable development. In this regard, the government will continue to provide several incentives in green technology industry consistent with various provisions announced in the 2011 budget. Furthermore, the Forest Institute of Malaysia highlighted that the government has set about developing a national strategy on the CDM and that the CDM projects should not only reduce the emission of greenhouse gases but also contribute to the sustainable development objectives in the host countries (FRIM, 2003). In Malaysia, a recent study on the palm oil industry’s practices has highlighted the benefits of a project-based flexible mechanism to improve waste management and utilization of renewable energy.

The real success of the CDM projects depends upon a project’s contribution to Malaysia’s goals for sustainability. The project must support the sustainable development policies of Malaysia and bring direct benefits towards achieving sustainable development; otherwise, it will not be approved by the NCCDM. On 18 December 2008, the NCCDM endorsed the new national CDM criteria. According to the new national CDM criteria approved by the NCCDM, the CDM projects must comply with the following criteria (MGTC, 2009):
Criterion 1. The project must support the sustainable development policies of Malaysia and bring direct benefits towards achieving sustainable development.

Criterion 2. Project implementation must involve participation of Annex I party/parties as CER buyer(s). In addition, they are encouraged to participate as equity or technology providers.

Criterion 3. The project must provide technology transfer benefits and/or improvement of technology, including enhancement of local technology.

Criterion 4. The project must fulfill all conditions underlined by the CDM Executive Board as follows:
   (i) voluntary participation,
   (ii) real, measurable and long-term benefits related to mitigation of climate change and
   (iii) reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

Criterion 5. The project proponent should justify the ability to implement the proposed CDM project activity.

The policy of green technology is viewed to be a driver to accelerate the national economy and promote sustainable development (MGTC, 2009). The objectives are as below.

(a) To minimize growth of energy consumption while enhancing economic development.
(b) To facilitate the growth of green technology industry and enhance its contribution to the national economy.
(c) To increase national capability and capacity for innovation in green technology development and enhance competitiveness.
(d) To ensure sustainable development and conserve the environment for future generations.
(e) To enhance public education and awareness and encourage its spread.

The government plays an important role because only projects that receive national host country approval can be registered as CDM projects and generate Certified Emission Reductions (CERs). Malaysia formed the National Committee on CDM (NCCDM) to oversee the CDM practices in Malaysia. According to the NCCDM, projects must first meet all the criteria before approval is given (MGTC, 2009). Within the past year, we have seen a rapid increase of CDM projects in Malaysia covering renewable energy, waste handling and disposal, and also in the manufacturing sectors, where there is great potential for GHG reduction projects in Malaysia. This shows the support and commitment of the Malaysian government to promote sustainable solutions for industry besides constantly implementing effective policies. These strengthen the view that the Government of Malaysia strongly supports CDM activities and has implemented an institutional framework.

CDM in Practice

The CDM potential in Malaysia provides a financial contribution to projects reducing GHG emissions. This can be done by demonstrating that the revenues of the CDM could help overcome some existing financial or other barriers. There are prospects in the CDM elements, such as energy efficiency, programmatic CDM in households, transport and small/medium enterprises, landfill methane gas capture, POME (palm oil mill effluent), solid waste, livestock manure, forestry, mini hydro and energy management.

One of the CDM projects for renewable energy is the landfill gas (LFG) power generation at Air Hitam Sanitary Landfill at Puchong. This is the first grid connected renewable energy project in the country. Landfill gas energy facilities are able to capture methane (the principal component of natural gas) and combust it for energy (Carlin, 2004). This project is owned by Jana Landfill Sdn Bhd (JLSB), a company that is a wholly owned subsidiary of TNB Energy Services Sdn Bhd, and Worldwide Landfill Sdn Bhd as the landfill site operator. The system functions as a fuel pre-treatment system of the biogas including the filtration, heating and cooling of the gas. This is to ensure the quality of biogas before it enters the gas engine. The landfill gas system is expected to generate about 2 kW of electricity, and up to 5 MW with future expansion of the plant (GE Energy, 2003). Other accomplishments in Malaysia’s emissions energy policies are the Biomass Energy Plant Lumut and Jendarata Steam and Power Plant. These generate electricity from the biomass waste from palm oil mills for the palm oil refineries. Types of solid
biomass waste are generated such as fibres, shells, empty fruit bunches (EFBs) and fresh fruit bunches (FFBs). In addition, another successful project is the installation of a generator that will be fed by the collected biogas to produce renewable energy. This is Bumibiopower at Pantai Remis generated from the palm oil CDM project; Japan is the potential CER investor for the project (MGTC, 2009). The MGTC (2009) reported that about 100 million tonnes of carbon emitted between 2006 and 2020 could have been potentially traded under the international mechanisms recognized under the Kyoto Protocol.

Another successful CDM project is the organic waste composting at Takon Palm Oil Mill, Sabah. This project comprises the design of a co-composting plant for waste from Takon Palm Oil Mill – EFBs and the POME from the mill residue – with an annual input capacity of 47 520 tonnes/year fresh EFBs and 129 600 m³/year POME, according to MPOB (Malaysian Palm Oil Board). Apart from compost fertilizer, the project will realise methane reductions by diverting POME from dumping at the landfills, where the anaerobic process occurs, to a composting plant. Most landfills in Malaysia are poorly controlled sites with no coverage or landfill gas extraction. (Yusuf, 2009). Table 1

The above project, if translated into monetary value, would amount to approximately USD2 million on average per year. The amount is attractive given that the cost involved may not be high as the project uses waste from the palm oil mills. It is even more valuable as it contributes to the reduction in global warming, which eventually helps to achieve sustainability. As the CHG emissions are predicted to increase over the years due to economic development, the demand to buy more credits will increase. There were about 156 CDM projects still in the pipeline, as of March 2009 (Oh and Chua, 2010). New industries with clean and green attributes are expected to be created in Malaysia. This is supported by the increasing demand for carbon credits resulting from the pace of development currently occurring in western countries and other parts of the world.

### Challenges of the CDM

Malaysia is one of the largest palm oil contributors and this palm oil sector is expected to meet most of the biofuel demand in Europe because it is the cheapest and has the highest yield of all forms of biodiesel. The CDM funding has been criticized by many NGOs because it allows polluting companies in rich countries to buy themselves out of

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual estimation of emission reductions (tonnes of CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 (2 months)</td>
<td>2 474</td>
</tr>
<tr>
<td>2009</td>
<td>22 772</td>
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<tr>
<td>2010</td>
<td>34 616</td>
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<td>2011</td>
<td>44 609</td>
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<td>2012</td>
<td>53 040</td>
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<td>2013</td>
<td>60 153</td>
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<td>2014</td>
<td>66 154</td>
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<td>2015</td>
<td>71 216</td>
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<tr>
<td>2016</td>
<td>75 488</td>
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<td>2017</td>
<td>79 091</td>
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<tr>
<td>2018</td>
<td>77 724</td>
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<tr>
<td>Total estimated reductions (tonnes of CO2e)</td>
<td>587 337</td>
</tr>
<tr>
<td>Total number of crediting years</td>
<td>20</td>
</tr>
<tr>
<td>Annual average over the crediting period of estimated reductions (tonnes of CO2e)</td>
<td>58 734</td>
</tr>
</tbody>
</table>

**Table 1.** Estimated carbon emission reduction (CER)


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having to reduce their own emissions. However, from specific research by the Standards and Industrial Research Institute of Malaysia (SIRIM) and the Malaysian Palm Oil Council (MPOC), Malaysia is slowly exploiting the numerous opportunities for initiating CDM project activities in the mills and, thus, is in keeping with the spirit of the CDM. Sustainable development in palm oil will gain increasing significance in the future.

The contribution of the CDM toward sustainable development is always debatable. The concept of sustainable development mentions the need to balance the social, environmental and economic aspects for the need of future generations (Amran and Zakaria, 2007). The current CDM framework is seen to be lacking in providing guidelines for improving sustainability (Kua, 2010). This is evident because most CDM projects involving the development or deployment of renewable energy technologies have potential negative impacts on the environment and social spheres (Kua, 2010). In relation to the Malaysian palm oil industry, which offers huge opportunity for CDM projects, it is necessary for proper monitoring to be performed in order to ensure positive impacts to all three spheres of sustainable development. A set of sustainability criteria should be developed to promote the achievement of sustainable development and should reflect the local context of where the project is carried out; such effort must be holistic in order to reach an equilibrium state for all three spheres. Kua (2010) suggested a reward system that may help to avoid the negative impact while supporting the sustainability criteria.

It is important to understand that the milling of FFBs to produce crude palm oil generates a fair amount of both solid and liquid waste, both of which could be efficiently managed by adopting innovative project activities that could meet the necessary requirements for the successful registration of a CDM project (Buron et al., 2007). While it is recognized by the world that Malaysia is ready to displace non-renewable energy with renewable fuels, the implementation of various policies and programmes by the government of Malaysia has always increased the awareness of the important role of renewable energy in sustainable energy systems (Mohamed and Lee, 2006).

The existing policy however is perceived as not joined up. Among the factors that affect the achievement of CDM projects in this region are the difficulty of the CDM request process and domestic licences for electricity generation, the cost of CDM implementation, the high cost of related consulting fees, the long achievement time and turnover rate for project approval, and the insecurity of investment return. In ensuring an appropriate mechanism for the implementation of many international proposals, conventions and national policies, capacity development for the whole scale of government structure (from local level to the national as well as state levels) is required (Tiong et al., 2009).

Conclusion

It is expected that carbon trading, such as through CDM projects, is the most effective way to reduce emissions. ASEAN could push for the best possible policy tool and the governments should implement a consistent way to reduce greenhouse gases and pursue a strategy that combines industrial sustainability development performance, value creation, environmental protection and the protection of natural resources and energy. Malaysia can utilize its strength as the main producer of oil palm. CDM provides opportunity for the oil palm industries to not just contribute to economic development but also improve the environment and positively provide social impact (Driesen, 2007), which eventually help Malaysia to achieve sustainability.

Achieving sustainability has been stated clearly as part of the objective of the protocol, besides mitigating climate change. However, it is not easy to define impact on sustainable development. The government should take this opportunity to include some of the local issues to be taken into account as part of the criteria in meeting the sustainability (Boyd et al., 2009). In a recent paper in which he compared CDM projects in Brazil and Peru, Cole (2007) found that these countries have established different social development goals, with Brazil emphasizing employment and income distribution objectives, and Peru pursuing more general local community needs.

Kolk and Pinkse (2008) stated that the size of the carbon market is large. The combined value of the CDM amounted to $5.3 billion in 2006 and it is expected to grow in the future. There is a local corporate player that has seen the opportunity in this new industry. Recently, YTL (a large conglomerate in Malaysia) took over SV Carbon, a carbon trading consultancy firm, thereby allowing them to become seriously involved in the industry. This
industry is expected to grow when all countries are made to ratify the Kyoto Protocol. With the United States and Australia still negotiating terms, more and more countries are realizing the importance of the Kyoto Protocol.

The government of Malaysia should now prepare the industry with the relevant infrastructure needed to help the whole CDM process work smoothly. Though many of the investors for the CDM are still taking a stance of ‘wait and see’, early preparation would help Malaysia be ready when everything is fully implemented. Although a review of the existing policy indicates that Malaysia has undertaken several initiatives, much more can be done. More research is now being carried out in order to provide support to the government. Stakeholder engagement is one way of acquiring input for the government to formulate a new policy. The main stakeholders – industry and the bankers – need to be engaged and made to understand to ensure smooth implementation and easy acceptance. Malaysia can also look to the advanced countries if necessary and modify what it learns for the Malaysian context. There are many success stories – for example Turkey, with its success in financing green technologies – that could be emulated in order to understand how to gain support from the bankers.

Every policy is shaped by a multitude of factors, not all of which lead to the most effective and most economical way to reduce GHG emissions. For this reason, a policy that treats all GHG sources equally and is committed to the global warming potential of their emissions, and not the particular industry or technology from which they arise, will have the best chance of effectively and efficiently reducing emissions. Policies that focus on the problem of all GHG emissions, instead of a few politically advantaged programmes, are more likely to prompt effective solutions to reduce GHG emissions across all economic sectors.

Nevertheless, judging from the positive trend in the increase in new policies, it can be expected that this will also positively influence the trend of practices of the CDM. The necessary foundation is already in place; improvement in certain aspects is required.

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