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The Implications of the Paris Climate Agreement for Malaysia

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Abstract

The current treaty that governs intergovernmental actions on climate change is the Kyoto Protocol. The Kyoto Protocol will come to an end in 2020 and be replaced by the Paris Climate Agreement. The Paris Agreement differs substantially from its predecessor, the Kyoto Protocol, because it removes the differentiation between the developing and developed countries on their climate actions. The major implications of the Paris Agreement for Malaysia are discussed.

Keywords: climate change; Paris Agreement; mitigation; adaptation; institutional and policy arrangements.

1 Introduction

Countries agreed to manage climate change as a global environmental issue through the United Nations Framework Convention on Climate Change (UNFCCC) on 9 May 1992. The Convention entered into force on 21 March 1994 with the objective of stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

However, the Convention was inadequate to deal with climate change and countries adopted the Kyoto Protocol in December 1997 under which developed countries or Annex 1 Parties were given legally binding emission targets to meet. The Kyoto Protocol entered into force on 18 November 2004 after 55 countries to the Convention ratified it, including enough developed countries, which have specific emission targets, covering 55 per cent of their greenhouse gas emissions in 1990 (UN).

The Kyoto Protocol established legally binding targets for Annex I Parties to return their greenhouse gas emissions to 1990 levels by the year 2000. Annex 1 Parties also had to provide more frequent

national communications, promote and facilitate the transfer of climate-friendly technologies and provide financial resources to developing countries through the Global Environment Facility (UN).

Malaysia ratified the UNFCCC on 17 July 1994 and subsequently the Kyoto Protocol. At that time, Malaysia's priority was on eradication of poverty and upgrading the living standards of its citizens (Ministry of Science, Technology and the Environment, 2000).

As a developing country or a Non-Annex 1 Party, Malaysia did not have mandatory greenhouse gas emissions targets. However, it was required to prepare and submit national communications containing information on greenhouse gas emissions to the UNFCCC. It was also required to promote the development and use of climate-friendly technologies, education and public awareness of climate change and its impacts; sustainable management of forests and other ecosystems that can remove greenhouse gases from the atmosphere.

The UNFCCC and Kyoto Protocol clearly assigned the leadership role on climate change to the developed countries. However, the major weakness of the Protocol was that it did not include the United States as a party. The United States was a signatory only to the UNFCCC. In this respect, the Paris Agreement is a more inclusive agreement since all major emitters of greenhouse gases, including the United States, are included in the agreement.

2 Background

The Paris Agreement was successfully concluded in December 2015. It was adopted as a decision of the Twenty First Conference of the Parties and attached as an Annex. It is expected to replace the Kyoto Protocol in 2020. This agreement adopts a bottom-up approach in terms of what countries can do on climate change, which is the opposite of the top-down approach that was adopted by the Kyoto Protocol. It is mainly based on voluntary pledges made by countries. Clemenson (2016) regards it as better than no agreement at all. Bodansky (2016) is of the opinion that this agreement has many strong features, including its legally binding status, its global coverage and involves an iterative process to take stock of progress on emissions reductions.

The United States was originally part of the Paris Agreement because it was still under the administration of President Obama. However, when Donald Trump replaced Obama, he signed an executive order on 28 March 2017, which overturned many of Obama's environmental initiatives, including the Clean Power Plan, Climate Action Plan and Climate Action Plan Strategy. The order did not mention the Paris Agreement explicitly, but its implementation will mean that the United States will not be part of the Paris Agreement (Newman, 2017; Worland, 2017).

The withdrawal of the United States will be keenly felt in three aspects. Firstly, as a developed country that should be playing a major role in the climate process by providing leadership in terms of taking significant actions, its withdrawal from the Paris Agreement will be keenly felt. Moreover, organizations within the US that would have been part of the Paris Agreement, now have the option not to embark on programmes that will reduce climate change. Even parties outside of the United States could be unduly influenced to reduce or totally stop doing what they may have planned to do.

Secondly, the funding sources of the UNFCCC would be affected by the withdrawal of the United States. It is not just the amount not contributed that would affect the UNFCCC, but the lack of commitment from a country that has so much to offer on the climate issue.

The third implication is the likelihood of a cutback in the role played by the United States on capacity building, which has always been very helpful to developing countries that are building their expertise in the area of climate change.

The agreement has increased the burden of developing countries, including Malaysia, in terms of addressing climate change. However, many of its provisions continue to protect the right of developing countries to development. These include the continuation of the principle of equity and common but differentiated responsibilities and respective capabilities, in the purpose of the agreement; commitment by developed countries on provision of finance, technology and capacity building and the recognition of loss and damage caused by climate change.

3 Provisions of the Paris Agreement

3.1 Purpose (Article 2)

The purpose of the agreement is to enhance the implementation of the UNFCCC. It aims to do this by holding the global temperature well below 2 degree Celsius above pre-industrial levels, increase countries' abilities to adapt to climate change and make finance flows consistent with a pathway towards low greenhouse gas emissions.

This article is generally beneficial to Malaysia except that the use of the words make finance flows consistent with a pathway towards low greenhouse gas emissions is not as clear as stating make financial resources available to developing countries. Furthermore, the implementation of this article would be done to reflect equity and the principle of common but differentiated responsibilities and respective capabilities. This purpose is fully in line with Malaysia's stand that the climate negotiations should enhance the Convention and not rewrite or reinterpret it. However, it should be emphasized that this principle has been diluted in the Paris Agreement compared to the Kyoto Protocol since the former is a bottom-up treaty where all countries submit Nationally Determined Contributions (NDCs) based on their respective capabilities whereas under the latter treaty, only developed countries were required to reduce greenhouse gas emissions on a mandatory basis.

3.2 Nationally Determined Contributions (NDCs) (Article 3)

The Paris Agreement requires that countries address climate change in a bottom-up approach through Nationally Determined Contributions (NDCs). It acknowledges that countries should have the flexibility to decide on their climate actions rather than have a top-down approach like the Kyoto Protocol, where countries specify their emissions reductions in advance.

However, what is even more important to Malaysia in this article is the inclusion of adaptation, finance, technology development and transfer and capacity building apart from mitigation.

Malaysia cannot address climate change merely by concentrating on mitigation because it is already affected by the adverse consequences of climate change. As such, adaptation is equally important. Furthermore, climate action will be considerably facilitated by the provision of financial resources, technology and capacity building.

Malaysia has already submitted its Intended Nationally Determined Contribution (INDC) to the United Nations. In this INDC, Malaysia has indicated that it will reduce its greenhouse gas emissions intensity of Gross Domestic Product (GDP) by 45% by 2030 relative to emissions intensity of GDP in 2005. This consists of 35% on an unconditional basis and the remaining 10% contingent upon receipt of climate finance, technology transfer and capacity building from

developed countries. As such, the country is ready to implement NDCs. However, some institutional and policy changes may be required and this is discussed later in the paper.

3.3 Mitigation (Article 4)

The mitigation provisions of the Paris Agreement have placed greater burden on all developing countries to undertake mitigation since each successive NDC will represent a higher ambition. While developing countries are only required to move to economy-wide emissions reductions or limitations targets later, there is no definition of what the time frame is, thus creating some policy space for developing countries like Malaysia.

While the requirement that every country shall communicate a NDC every five years clearly imposes a burden on Malaysia insofar as mitigation is concerned, many mitigation actions have already taken place in Malaysia.

In the Tenth Malaysia Plan, 2011-2015, environmental sustainability had been emphasized as part of comprehensive socio-economic development. In 2009, Malaysia set a voluntary target of reducing greenhouse gas emission intensity of its Gross Domestic Product (GDP) by up to 40% compared to 2005 levels by 2020. By the end of 2013, Malaysia had already achieved a 33% reduction. The energy sector, which is a major contributor to greenhouse gas emissions, has taken steps to increase the use of clean and environmentally friendly sources of energy (Economic Planning Unit, 2015).

For example, the Renewable Energy Act, 2011, implemented the Feed-in Tariff (FiT) mechanism to accelerate renewable energy growth in Malaysia and since then renewable energy installed capacity has grown fivefold between 2009 and 2014 to 243 megawatt. As of 2013, this initiative reduced greenhouse gas emissions by 432,000 tonnes of carbon dioxide (Economic Planning Unit, 2015).

Energy efficiency was also achieved through the Sustainability Achieved via Energy Efficiency (SAVE) programme (2011-2013) which reduce energy consumption by 306.9 gigawatt hour (GWh), avoiding greenhouse gas emissions of 208,705 tonnes of carbon dioxide.

In the transportation sector, initiatives were taken to control emissions from motor vehicles with higher usage of energy efficient vehicles and biofuels. The Government gazette EURO4M standards in 2013 and enforced its use in RON97 in 2013. Through the use of bio-diesel B5 programme, as of 2013, greenhouse gas emissions were reduced by 1.4 million tonnes of carbon dioxide (Economic Planning Unit, 2015).

Mitigation actions were also taken in the waste and the forestry sectors. Paper recycling activities reduced greenhouse gas emissions by four million tonnes of carbon dioxide equivalent while the gazetting of forest areas in Pahang, Perak and Selangor further resulted in greenhouse gas emission avoidance of 1.8 million tons of carbon dioxide.

All the above initiatives indicate that Malaysia is taking appropriate mitigation actions. The measurement, reporting and verification (MRV) of mitigation actions in Malaysia are coordinated by the Ministry of Natural Resources and Environment (NRE). Mitigation action data are collected by the Technical Working Group (TWG) on Mitigation and verification is conducted by the Technical Working Group on Verification under the National Steering Committee on Climate Change chaired by the Ministry of Natural Resources and Environment and consisting of relevant ministries associated with climate change and non-governmental organizations (Ministry of Natural Resources and Environment, 2015).

However, mitigation actions need to be coordinated through a central planning document such as a National Mitigation Plan. Such a document would ensure that the various mitigation measures that are now being implemented by the different government agencies do not overlap with each other but will in fact contribute to synergy with each other.

3.4 Adaptation (Article 7)

The article on adaptation establishes adaptation as a global goal to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change. Adaptation efforts of developing countries is recognized as part of climate response under the Paris Agreement. While countries are encouraged to cooperate on adaptation through such measures as sharing information, institutional arrangements and scientific knowledge, there is also a recognition that adaptation needs to follow a country-driven approach, taken into account the vulnerable communities within societies and taken into account traditional knowledge and practice.

This article is very much in line with what Malaysia has been emphasizing in its approach in managing climate change in the country through its National Climate Change Policy, which is that both mitigation and adaptation must be given emphasis (Ministry of Natural Resources and Environment, 2012). In fact, as Malaysia is already experiencing the adverse effects of climate change, many adaptation measures have already been undertaken.

Flood mitigation programmes have been among the most important adaptation actions taken by Malaysia. During the Tenth Malaysia Plan (2011-2015), 194 flood mitigation projects were implemented and 34 local scale flood hazard maps developed to facilitate disaster prevention. It has been estimated that the average cost to the Government of managing floods has risen from RM3 million per year during the Second Malaysia Plan (1971-1975) to RM1.3 million per year during the Tenth Malaysia Plan (2011-2015) (Ministry of Natural Resources and Environment, 2015). Efforts to address floods through integrated flood management integrated flood forecasting and early warning systems will be necessary.

Another adaptation measure that has received Government attention is water resource management. While 97% of the water supply in Malaysia is derived from water in rivers and reservoirs, management of this water supply to ensure adequate water supply continues to be given attention by the Government.

Studies have also been conducted to examine the impact of sea-level rise on coastal localities and work in this area will continue to be of importance in the years to come. The impacts of climate change on infrastructure, agriculture production, forestry, biodiversity and public health have also been given attention and will no doubt become more important as the adverse impacts of climate change increase.

At this moment, adaptation actions are taken on a sectoral basis. A major implication of the Paris Agreement for Malaysia would be the need to enhance coordination in its work on adaptation by developing a National Adaptation Plan.

The National Adaptation Plan, could cover the following areas:

- Water resources to ensure water security especially measures to deal with water shortages, flood mitigation and coastal erosion

- Design of energy infrastructure such as measures that take climate change into consideration, for example offshore infrastructures
- Agriculture to ensure food security by enhancing crop resilience in changing climate
- Biodiversity to reduce impacts of climate change by maintaining forest cover and enhancing coastal and marine ecosystems
- Public health to control the spread of diseases due to climate change

3.5 Loss and Damage (Article 8)

The negotiations had resulted in an article on loss and damage which is distinct from adaptation. However, while the Paris Agreement has recognized the existence of loss and damage through Article 8 and established a Warsaw International Mechanism for Loss and Damage to examine areas of cooperation such as early warning systems, emergency preparedness and comprehensive risk assessment, the article has no provision for compensation for loss and damage caused by climate change.

3.6 Finance (Article 9)

The most important paragraph in article 9 is the paragraph which provides that developed countries shall provide financial resources to developing countries to assist the latter to undertake mitigation and adaptation actions under the UNFCCC. There is no requirement on developing countries to contribute to funds under the UNFCCC but they can do so on a voluntary basis.

While the text of the agreement does not mention the amount of financing, the decision of the Conference of the Parties mentions that developed countries would mobilize US100 billion per year till 2025, after which a new amount will be decided, based on the US100 billion as a floor (UNFCCC, 2015).

The fund that is being set up by the UNFCCC is the Green Climate Fund (GCF). While there is concern over the adequacy of funds being channelled into this fund, Malaysia must be ready to receive money from the GCF on a direct access basis. This mode of access requires that countries meet stringent fiduciary standards before they can receive such funds. The first step is therefore, for the country to satisfy the fiduciary standards of the GCF.

There is also a need to explore sourcing of funds domestically, including from the private financial institutions, as Malaysia is moving towards developed nation status. There is also a need to develop a nationally sustainable source of funding to address climate change within the country.

Due consideration could be given to the use of green bonds and domestic offset mechanisms. There are still many opportunities for the private sector to be involved in climate change projects in sectors like forestry, waste, energy and agriculture. It would be best for the funds to be specifically directed to the area of climate change to ensure its effectiveness.

3.7 Technology Development and Transfer (Article 10)

On technology development and transfer, the Paris agreement continues the work of providing guidance towards promoting and facilitating enhanced action on technology development and transfer. Financial support will be given to promote technology development and transfer to deal with climate change.

For Malaysia, there needs to be an organization that would focus its attention on technology development and transfer on climate change. No such organization exists at the present time. It is thus necessary to make institutional and policy changes to provide for such an organization.

With the appropriate technologies in place, Malaysia would be able to implement both adaptation and mitigation actions to address climate change in the country. In this context, the creation of a new institution that would include work on technology development and transfer on climate change, would seem to be necessary. Such an organization would not only represent Malaysia globally but would also work with local businesses to promote green technology.

3.8 Transparency Framework for Action and Support (Article 13)

Transparency is a key feature of the Paris Agreement because countries need to provide information on how they are fulfilling their obligations contained in their NDCs. The agreement contains provisions on transparency related to (i) actions on mitigation and adaptation support; and (ii) support provided and received by developing countries.

This transparency framework creates a self-reporting and self-regulating mechanism to cover both actions and support received to implement actions. The information that is required is the following:

- a national inventory report of greenhouse gases and the extent to which the NDC has been met;
- climate change impacts and adaptation;
- financial, technology transfer and capacity-building support received (developing countries only); and
- financial, technology transfer and capacity-building given (developed countries only).

The information that is submitted under this article will be subject to a technical expert review. This new article therefore imposes a greater burden on all countries in terms of the monitoring and reporting actions that are required. There will thus be a lot of work on Measurement, Reporting and Verification (MRV) procedures.

There is therefore a need for Malaysia to ensure that it has the necessary institutional and policy framework in place to meet the requirements under this article.

3.9 Global Stocktake (Article 14)

The agreement contains provisions for a global stocktake periodically, the purpose of which is to assess the collective progress of all countries towards achieving the goals of the agreement. This global stocktake will be comprehensive, facilitative and undertaken in the light of both equity and the best available science. It would cover:

- mitigation;
- adaptation; and
- means of implementation.

While the first global stocktake is fixed for 2023 and every 5 years thereafter, there is provision in the decision of the Conference of the Parties for a facilitative dialogue among Parties in 2018 to take stock of progress towards the long-term goal of mitigation and the preparation of NDCs.

This 2018 facilitative dialogue would thus be only on mitigation and would not be welcome by Malaysia which would seek to have a comprehensive stocktake since adaptation and means of implementation are equally important to it. This article would put greater demands on developing countries, including Malaysia, to take more climate action.

4 Implications for Malaysia

An examination of the main articles of the Paris Agreement would indicate that it has increased the burden on developing countries, including Malaysia, to take action on climate change. While developed countries still continue to take the leadership role on means of implementation and the principle of common but differentiated responsibilities and respective capabilities is retained in the agreement, there is a weakening of the role of developed countries because this new treaty is a bottom-up treaty where all countries have to take actions on climate change. This is unlike the Kyoto Protocol where only developed countries have mandatory greenhouse gas emissions reductions.

The greater burden on Malaysia to address climate change under the Paris Agreement means that the country has to strengthen its institutional and policy framework on climate change; enhance information on climate change decision-making; create partnerships to address climate change; and develop a sustainable financial mechanism to address climate change.

4.1 Strengthening the Institutional and Policy Framework on Climate Change

Institutions are at the heart of societal progress and advancement. Climate change institutions are more complex than other types of institutions because climate change is a cross-cutting issue that is not restricted to a single institution. Climate change requires high levels of coordination and access to resources, both human and financial.

An examination of the climate change institutional structures in other countries like Singapore, Thailand, Philippines, South Korea and India and reveals that the following are the core elements that are often found in their structures:

- Assessment, goal-setting and policy formulation;
- Ministerial or official level coordinating body on climate change;
- Climate change policy or action plans;
- Climate change legislation;
- Permanent technical organization on climate change issues;
- Measurement, reporting and verification institutional structure; and
- Institutional structure for stakeholder consultation.

The Paris Agreement increases the necessity for Malaysia to review its institutional and policy set-up on climate change. The Ministry of Natural Resources and Environment (NRE), which is responsible for the policy formulation and implementation on climate change in the country does not have a dedicated technical body to prepare technical inputs or analyze the implications of climate change to the country. Countries like Mexico and Thailand have technical organizations that assist in formulating and implementing climate policy. Consideration should be given to setting up such a technical organization in Malaysia. It could take on many of the responsibilities imposed by the Paris Agreement including measurement, reporting and verification of greenhouse gas reductions; ensuring Malaysia can access climate funds such as those of the Green Climate Fund; and conducting studies on the peaking year for Malaysia's greenhouse gas emissions.

Malaysia currently relies on many policies to manage climate change. However, the policy which is directly related to climate change is the National Climate Change Policy, which came into force in November 2009. The objectives of the policy are:

- Mainstreaming of measures to address climate change challenges through strengthened economic competitiveness, wise management of resources, environmental conservation and enhanced quality of life for sustainable development;
- Integration of responses into national policies, plans and programmes to strengthen the resilience of development from arising impacts and challenges of climate change; and
- Strengthening of institutional and implementation capacity to better harness opportunities in reducing and addressing negative impacts of climate change.

The policy is based on the following principles:

- Development on a Sustainable Path;
- Sustainability of Environment and Natural Resources;
- Integrated Planning and Implementation;
- Effective Participation; and
- Common but Differentiated Responsibilities.

Each principle is supported by a few strategic thrusts. For example, the first principle, which is Development on a Sustainable Path, is supported by three strategic thrusts, facilitate the harmonisation of existing policies, instituting measures to make development climate-resilient and support climate-resilient development and investment. Each thrust has specific key actions. However, this policy has not been revisited since it came into existence in 2009. It is time for it to be reviewed to take into account the provisions of the Paris Agreement. It may also be an opportune time to examine the need for a National Climate Change Action Plan as a supplement to the policy. Moreover, the country may wish to examine whether there is merit in having specific climate legislation.

4.2 Enhancing the Information for Climate Change Decision-Making

Efforts need to be taken to enhance the information on climate change that will be used for climate change decision-making. This requires that several measures be taken. Firstly, there has to be an identification of the gaps in information required for decision-making. An inter-ministerial committee may have to be formed for this purpose. Private sector organizations, think tanks and NGOs should be involved. Links with local, regional and global organizations to share and conduct research would be beneficial.

Such research should be disseminated widely as part of the country's efforts to involve all sectors of society in addressing climate change. This requirement on enhancing information for climate change decision-making is closely related to the need for strengthening the institutional framework as described above. It would be ideal if the institutional enhancements described above can take into account the very demanding information needs that climate change decisions need.

Climate change information is complex and multidisciplinary. Before decision-making can take place, the economic, social and legal implications have to be considered. There is a need for a science-policy interface because the science of climate change determines many of the actions

required to manage climate change. Both human and organizational resources to make this happen should be given priority.

To avoid duplication in its research efforts and to enhance the database on climate change information, consideration could also be given to the setting up of a clearing house on climate change information.

4.3 Creating Partnerships to Address Climate Change

Climate change is everyone's business. The business sector has an important role to play in addressing climate change together with the Government, NGOs and the members of the public. In this respect, the economic benefits of addressing climate change can be seen in the growth of the environmental goods and services such as air pollution control, solid waste management, hazardous waste management and solar, biomass and renewable energy equipment manufacturing (ILO, 2014). Other countries like South Korea and Singapore have also reaped huge benefits from investing in the environmental goods and services sector.

Greenhouse gas reporting by organizations may be a good way to instil in organizations their social responsibility on climate change issues. Management scholars remind us that we can only change what can be measured. Since greenhouse gas emissions ultimately come from organizations, it is important that they be involved closely in any effort to address greenhouse gas emissions.

There also needs to be a holistic programme to communicate and educate the members of the public on the adverse effects of climate change and how they can contribute to addressing the problem in their daily lives. While programmes on climate change have been implemented in the past, they need to be provided with sustained funding sources that will ensure that the programmes are continuously tracked, impacts measured, changes noted and improvements made.

The launching of the Southern Climate Partnership Incubator (SCPI) that will help developing countries implement the Paris Agreement by the United Nations last year is a good example of partnership between the United Nations Executive Office of the Secretary-General, the United Nations Office of South-South Cooperation, in cooperation with other members of the UN system and the wider stakeholder community.

This is a new initiative of the Secretary-General of the United Nations that will focus on renewable energy, smart cities, big data and climate resilience.

4.4 Creating a Sustainable Financing Mechanism on Climate Change

Almost all climate change mitigation and adaptation actions require financing even though costs of addressing climate change may range from low to very high cost (McKinsey, 2009). Even when the programmes of action incur low costs, there are expenses required in the form of allowances or salaries to staff. More importantly, once a country's low cost climate actions have been utilised, then the high cost options need to be considered.

A steady and reliable source of funds is therefore indispensable. Presently, climate funds in Malaysia are sourced through the regular five-year development plans. Such funding has to compete with other development sectors like education, defence and infrastructure and may not be adequate in the long run.

Malaysia has received funds from the Global Environment Facility (GEF). Efforts are currently being made to fully operationalise the Green Climate Fund (GCF). Such funds are a good source of initiating projects that would receive national funding support and would continue to play a very important role in the future.

Nevertheless, countries themselves should explore how innovative sources of funding from such sources as: tax on protected areas, protected area entry fee, licence fee for tour operators, cruise ship passenger fees and hotel room taxes (Miles, 2005).

There is therefore a need to develop a funding mechanism outside of the regular budget process. Such a mechanism may draw on both internal and external sources of funding, be based on the polluters pay principle and the funds collected will be dedicated to climate change efforts only.

5 Conclusion

Malaysia has done well on the economic and physical aspects of development. Its on-going efforts to address environmental issues are indeed laudable and moving the country in the right direction.

However, there is a need for Malaysia to examine its overall approach on climate change to take into account the provisions of the Paris Agreement. In particular, the following particular points may need to be given considered:

- Strengthening Institutional and Policy Framework to Address Climate Change;
- Enhancing information on climate change decision-making;
- Creating partnerships to address climate change; and
- Developing a sustainable financial mechanism to address climate change.

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