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# Malaysia's Climate Change Framework and Local Government Response

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#### Abstract

Climate change is a significant global challenge affecting our planet's ecosystems. Addressing this challenge requires a concerted effort from all stakeholders, including businesses, academic institutions, and government at all levels. This paper examines Malaysia's national policy on climate change and its legal framework at national and international levels. It also aims to consider the response by local authorities. The discussion adopts the doctrinal legal research analysis. The findings of this paper can provide the policymakers, governments, and local authorities in Malaysia to expedite their climate change mitigation effort.

Keywords: Climate Change; Local Authorities; Response; Framework

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# **1.0 Introduction**

Climate change is the issue that defines our era. No country has been immune to its impact, and for Malaysia, that impact has frequently been devastating, including severe flooding and life-threatening storms. Malaysia keeps experiencing extreme weather occurrences, with the latest being the floods in Johor caused by continuous heavy rain affecting 32,900 people (Eileen, 2023). In response, the Johor government has proposed establishing a climate change and flood management committee (Bernama, 2023). According to the World Bank Group and Asian Development Bank's Climate Risk Country Profile: Malaysia (2021), under the worst-case scenario of climate change, average temperatures in this country are expected to rise by 3.11 degrees Celsius by the 2090s (Bernama, 2023).

In 2009, the National Policy on Climate Change was implemented to integrate climate change into mainstream policies, enhancing institutional capacity and mitigating the adverse effects of climate change. Most recently, the government announced that efforts were in place to introduce a Climate Change Act. The development of the national climate change Bill is expected to take two to three years (Soo, 2023). The government cannot address climate change independently because it requires the participation of all sectors, including the public and private sectors and subnational governments. Local authorities have a crucial role in preparing for the impacts of climate change. Hence, they can become pivotal players working with governments and international organisations and downwards with grassroots organisations, the private sector, and, most importantly, the communities they represent and serve. Thus, on the part of local authorities, several sections in the Local Government Act 1976 mentioned local authorities' powers that align with federal policy. To address climate change, the local authority can establish environmental policies and regulations and assist in implementing national and sub-national ecological procedures (Maidin, A.J & Ali, B. B. M, 2009). While Malaysia's commitment to the global multilateral effort to address climate change is clear, Malaysia's national policy on climate change and the national and international legal framework. This paper will also discuss the response by the Malaysian local authorities to climate change, using Penang Island City Council (MBPP) and Shah Alam City Council (SACC) as a model.

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## 2.0 Literature Review

#### 2.1 Definition of Climate Change

Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and the variability of its properties that persist for an extended period, typically decades or longer (IPCC, 2022). Article 1 of the United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable periods (United Nations Framework Convention on Climate Nations Framework Convention on Climate Nations Framework Convention on Climate Periods (United Nations Framework Convention on Climate Change, 1992).

#### 2.2 The International Legal Framework on Climate Change

The United Nations has played a vital role in developing many bindings of international treaties on climate change. Several significant pieces of global climate change legislation are highlighted below.

The United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty intended to stabilise greenhouse gas concentrations in the atmosphere. Almost all nations in the globe have ratified the UNFCC. The UNFCCC's ultimate goal is to stop "dangerous" human involvement with the climate system.

The 1997 Kyoto Protocol to the UNFCCC was adopted in response to the lack of legally binding emission reduction targets and timelines in the UNFCCC. It shares the UNFCCC's objective and is likewise based on the principle of common but differentiated responsibilities. The heart of the Kyoto Protocol lies in Article 3, whereby UNFCCC Annex I Parties committed to specific, quantified, and binding emissions limitation and reduction commitments (contained in the Protocol's Annex B).

The Kyoto Protocol was revised in 2021 due to the Doha Amendment. The Doha Amendment included a second commitment period for enacting emission reduction measures. By 2020, the Doha Amendment required all countries to cut their emissions of greenhouse gases by 18% from their 1990 levels.

The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016. Its overarching goal is to hold "the increase in the global average temperature to well below two °C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels."

Hence, several legally binding multilateral environmental instruments and the international legal framework discussed above exist. The multilateral mechanisms target specific areas of environmental concern that impact or are impacted by climate change.

#### 2.3 The Malaysian Legal Framework and Policy on Climate Change

Malaysia has various environmental laws and regulations that indirectly contribute to addressing climate change. These laws focus on pollution control, natural resource management, and environmental impact assessments. While they do not explicitly target climate change, they provide a legal framework to address environmental concerns contributing to it.

Some relevant laws and regulations include the Environmental Quality Act 1974. This act provides the legal basis for pollution control and environmental quality management in Malaysia. However, the Environmental Quality Act 1974 does not define or address climate change.

Next is the Renewable Energy Act 2011, which encourages developing and utilising renewable energy sources in Malaysia. The Environmental Quality Act (EQA)1974 and the Renewable Energy Act 2011 indirectly contribute to reducing carbon emissions; however, they have no direct relationship to climate change (Maizatun Mustafa, 2020).

Additionally, the Environmental Impact Assessment (EIA) is one of the environmental planning, decision-making, and management strategies that could be used to address climate change. The Environmental Impact Assessment (EIA) Guidelines in Malaysia comprise the most recent guidelines established by the Director General of Environmental Quality to comply with Section 34A (2c) of the Environmental Quality Act 1974 and the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015, which was published in the government gazette and has been in effect since August 28, 2015. The EIA process considers climate change impacts as part of the assessment.

Recently, the development of the national climate change Bill is expected to take two to three years (Soo, 2023). The development of the Bill will adopt a whole-nation approach that includes the engagement process with relevant stakeholders (Basyir, 2023). The forthcoming legislation is anticipated to possess greater comprehensiveness and yield a more substantial effect (Basyir, 2023).

Malaysia has demonstrated a strong commitment to the development and execution of policies aimed at mitigating the effects of climate change. Consequently, the government has developed several policies to ensure climate-resilient development is compatible with the national sustainability agenda. The first attempt occurred in 2002 when the government implemented the national environmental policy that laid out principles and strategies for Malaysia to exploit its natural resources more sustainably while developing its economy (National Policy on Climate Change, 2010). The Malaysian government implemented the National Policy on Climate Change in 2009, which aimed to integrate climate change considerations into various sectors, establish policies, and enhance institutional capacity to mitigate the adverse effects of climate change. Subsequently, more policies emerged as the government realised that climate change does not involve environmental issues alone but also affects economic growth and social aspects

| Year | Policy                        | Description  |
|------|-------------------------------|--|
| 2002 | National Policy on the        | This policy aims to achieve a clean, safe, healthy, and    |
|      | Environment                   | productive environment for the present and future          |
|      |                               | generations. It also seeks to conserve the country's       |
|      |                               | unique and diverse cultural and natural heritage through   |
|      |                               | the active participation of all society.                   |
| 2009 | National Green Technology     | This policy involves several sectors that directly impact  |
|      | Policy                        | the environment: energy, building, transport, water, and   |
| 2000 | National Daliay on Climate    | Waste management.  |
| 2009 | National Policy on Climate    | i Mainstroom dimete change through wice                    |
|      | Change                        | n. Mainstream climate change inough wise                   |
|      |                               | environmental conservation resulting in                    |
|      |                               | strengthened economic competitiveness and                  |
|      |                               | improved quality of life.                                  |
|      |                               | ii. Integrate responses into national policies, plans      |
|      |                               | and programmes to strengthen the resilience of             |
|      |                               | development from arising and potential impacts             |
|      |                               | of climate change; and                                     |
|      |                               | iii. Strengthen institutional and implementation           |
|      |                               | capacity to better harness opportunities to                |
| 2010 | National Ponowable Energy     | This policy aims to reduce CHC emissions and               |
| 2010 | Policy and Action Plan        | environmental pollution effectively. It facilitates the    |
|      | r olloy and roton r lan       | growth and development of renewable energy while           |
|      |                               | maintaining the environment. It also seeks to enhance      |
|      |                               | the utilisation of indigenous energy resources to          |
|      |                               | contribute towards national electricity supply security    |
|      |                               | and sustainable socio-economic development.                |
| 2016 | National Solid Waste          | This policy aims to minimise municipal solid waste         |
|      | Management Policy             | through 3R, promote waste-to-energy projects and           |
|      |                               | improve waste management in general. It has targeted       |
|      |                               | that 10% of waste generated is to be treated by high-      |
|      |                               | that the recycling rate by 2020 is at 22%                  |
| 2016 | National Policy on Biological | This policy aims to improve carbon stocks and promote      |
|      | Diversity 2016–2025           | green/carbon tax and carbon offset schemes. It has         |
|      |                               | targeted that at least 20% of terrestrial areas and 10% of |
|      |                               | coastal and marine areas are to be conserved.              |

| Table 1. An Overview | of National Policie | s that Address the | Climate Char | nge in Malavsi | ia |
|----------------------|---------------------|--------------------|--------------|----------------|----|
|                      |                     |                    |              | igo in maiayoi | iu |

(Source: Reorganize from National Low Carbon Cities Masterplan (2021))

#### 2.4 The Response of Local Authorities

Local authorities are at the forefront of addressing emerging climate change issues. Local authorities established under the Local Government Act 1976 are primarily responsible for local matters. The local authority's power is mentioned in section 63 until section 84 of the Local Government Act 1976. Furthermore, the Local Government Act 1976 provides various powers for local authorities to regulate local authority areas to ensure proper administration of affairs or local authority areas to ensure the residents' comfort (Maidin, A.J & Ali, B. B. M, 2009).

The Local Government Act 1976 has conferred discretionary powers upon the local authority in Malaysia. One is by developing policies and strategies that promote the reduction of greenhouse gas emissions. This can be achieved by promoting renewable energy, encouraging energy-efficient buildings and transportation, and supporting sustainable agricultural practices (National Low Carbon Cities Masterplan, 2021). Low Carbon Cities (LCC) is an initiative by the Malaysian Green Technology and Climate Change Corporation (MGTC) under the Ministry of Environment and Water (KASA) to help shift our cities towards a low-carbon future. In achieving this, the Low Carbon Cities Framework (LCCF) established in 2011 aims to provide local authorities and all states nationwide to transform their cities into low-carbon cities. The LCCF is only applied to participating local authorities in Malaysia (UPEN, 2016). The Low Carbon Cities Framework only applies to the local authority who participate, which means not all local authority is obliged. This is among the challenges identified in making LCCF implementation effective.

Local governments can also implement adaptation and resilience. For instance, the study by Osman (2021) examined the ideas of resilient cities and environmental resilience by employing a framework for evaluating resilient cities and developing test indicators to gauge local governments' environmental resilience. Moreover, adaptation strategies have gained importance in responding to climate change and the impacts that it will have on local communities (Baker et al., 2012). Malaysia launched the National Low Carbon Cities Masterplan (NLCCM) in August 2021 as a strategic initiative to mitigate the impacts of climate change and promote sustainable urbanisation. The master plan provides complete guidance to state governments and local authorities in developing low-carbon cities in their respective administrative areas. In addition, the government is allocating RM35 million under the Low Carbon Catalyst Grant (GeRAK) to local authorities to drive climate change actions at the grassroots level (Suhaidi, 2021). In 2022, 150 local governments received an RM250,000 Low Carbon Cities Catalyst Grant (GeRAK) to support high-impact, low-carbon city initiatives (Bernama, 2023).

The local government's response to (GeRAK) has been highly positive, and the government will continue to provide this grant (Bernama, 2023).

Moreover, local authorities can collaborate with external bodies, including non-governmental organisations, based on creating information instruments, dialogue with citizens, and establishing partner relations with the surrounding entities (Smalec et al., 2021). They can form partnerships to leverage expertise, resources, and funding for climate change initiatives. Collaboration with other local authorities, domestically and internationally, can also facilitate knowledge sharing and best practice exchange.

### 3.0 Methodology

This paper adopts qualitative doctrinal legal research as this paper intends to discuss in depth and detail. For this purpose, the discussion adopts the doctrinal content analysis method by examining the primary sources such as the Environmental Quality Act 1974, Renewable Energy Act 2011, and Local Government Act 1976. Moreover, the national policies that will be referred to are the National Policy on the Environment 2002, National Green Technology Policy 2009, National Policy on Climate Change 2009, National Renewable Energy Policy and Action Plan 2010, National Solid Waste Management Policy 2016, and National Policy on Biological Diversity 2016–2025. The secondary data are collected from academic journal articles, newspaper articles, textbooks, and government reports. In addition, online databases such as Lexis Nexis, Emerald Insight and Hein Online are used for this purpose.

# 4.0 Findings and Discussion

Given local authorities' critical role in addressing climate change and its impacts, they continue to advance various measures to mitigate and adapt to climate change. The articles will examine two local authorities in Malaysia, including the City Council of Penang Island (MBPP) and the City Council of Shah Alam (SACC).

Table 2: An Overview of Initiatives Undertaken by the City Council of Penang Island and Shah Alam City Councils.

| The City Council of Penang Island (MBPP)         | Shah Alam City Council (SACC)                  |  |  |
|--|--|--|--|
| ILHAM city                                       | Low Carbon City                                |  |  |
| Low Carbon City                                  | Low Carbon Building Initiatives and Assessment |  |  |
| Penang Nature-Based Adaptation Programme (PNBCP) | Green Transport Infrastructure                 |  |  |
| Gerak  | Gerak  |  |  |

(Sources: Reorganize from Sustainable Development Goals - Penang Island Voluntary Local Review (2021), Low Carbon Cities 2030 Challenge, Malaysian Green Technology and Climate Change Corporation (2021))

The City Council of Penang Island (MBPP) has recognised the importance of addressing climate change and has taken several initiatives to mitigate its effects. One of the critical initiatives, the City Council of Penang Island (MBPP) published its first "Sustainable Development Goals - Penang Island Voluntary Local Review" report. This report outlined the city's challenges in implementing policies and measures toward sustainable development. The City Council of Penang Island is focused on environmental protection. Climate adaptation initiatives were similarly essential to improve the quality of life, lower temperatures, and protect people from the drastic effects of climate change. This is where the city's goal is to create an intelligent, liveable, and happy (ILHam) city. The ILHam City focuses on five domains: smart e-governance, smart mobility, innovative economy, innovative environment and innovative social. Another key initiative is developing a Low Carbon City, which aims to reduce greenhouse gas emissions in Penang Island by promoting sustainable transport, energy-efficient buildings, and waste reduction. The Malaysian Green Technology and Climate Change Corp (MGTC) has honoured Penang for its design as part of its drive to promote Low Carbon Cities (LCCs) in Malaysia, with the state given the "Diamond" award for PSI's design at the Low Carbon City 2022 event (Choong, 2023).

In addition to these initiatives, the City Council of Penang and Think City will jointly apply for US\$10 million (RM41.4 million) from the World Bank Adaptation Fund when they submit a final proposal on their nature-based climate adaptation programme in November 2020 (Buletin Mutiara, 2020). Moreover, the effort by the Penang Nature-Based Climate Adaptation Programme (PNBCAP) for the urban areas of Penang addresses the issues of heat stress and flooding while strengthening social resilience and institutional capacity. Thus, the MBPP has engaged with the community through education and outreach programs to raise awareness about climate change and the need for action.

Shah Alam City Council (SACC), also widely known as Majlis Bandaraya Shah Alam (MBSA), which is responsible for the planning, development, and management of the city of Shah Alam in Malaysia, has recognised the importance of addressing climate change and has taken several initiatives to mitigate its effects. One of the key initiatives is implementing a Low Carbon City (LCC) in reducing carbon emissions and promoting sustainable development in the city. Shah Alam City Council (MBSA) received 16 diamond recognition and provisional certification awards at the Low Carbon City 2030 Challenge for its efforts in reducing carbon emissions (The Star, 2021). The Shah Alam City Council has implemented several initiatives to promote sustainable development. These initiatives encompass the domains of Low Carbon City, Low Carbon Building and Assessment, and Green Transport Infrastructure. The Council's dedication to environmental sustainability is highly laudable, serving as a shining example for local authorities to emulate.

The national frameworks in Malaysia are growing as governments plan for low-emission and resilient growth and ramp up climate responses in line with the Paris Agreement. Malaysia's commitment to the global climate agenda needs to be appreciated. Even though Malaysia only contributes less than 1% of the world's greenhouse gas (GHG) pollution and is a developing country, it signed the UN Framework Convention on Climate Change in 1993. It ratified it the following year (Sanghi, A., 2022). Although Malaysia's commitment

to the global multilateral effort to address climate change is clear, Malaysia's record of outcomes at the national level remains mixed. The respective government has many policies and initiatives at the federal and state levels. Thus, it is essential to streamline climate change adaptation actions into the nation's development plan.

Moreover, the development of the Malaysian Climate Change Act, which is expected to take two to three years, is urgently required. For instance, the Climate Change Act 2008 introduced the United Kingdom's first legally binding target for 2050 to reduce greenhouse gas emissions by at least 80% compared to 1990. UK emissions have continued to fall since the Climate Change Act was passed in 2008. Hence, the Act has been used as a model for creating climate law in several countries, including Denmark, France, Germany, Ireland, Mexico, New Zealand, and Sweden.

Cities worldwide have embarked on strategies to address climate change, and Malaysia's cities were no exception. The matter concern is whether it is enough. The question also can arise of whether any projection has been made for future changes in climate in terms of extreme weather, flash flooding and others. The commitment by the Malaysian government at the international level is not an issue. On the other hand, Sustainable Development Goals (SDGs), particularly in defining the role towards maintaining and preserving the ecosystem for future generations, have become a guideline for some cities in Malaysia. This can be seen in the state government of Penang 2030, which framed a goal of achieving the 17 SDGs.

#### 5.0 Conclusion

Climate change is a global phenomenon, but its impacts are felt locally, making it essential for local governments to respond. The role of local governments in addressing climate change is crucial, as they are responsible for implementing policies and programs that can mitigate the effects of climate change and adapt to its impacts. The City Council of Penang Island and the City Council of Shah Alam have taken significant steps to address climate change and promote sustainable development. Through its initiatives, it works towards a more sustainable and resilient future for the cities and residents.

#### Paper Contribution to Related Field of Study

This study enhances the existing body of literature about the response of local authorities, specifically in Malaysia, in addressing the challenges posed by climate change.

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