Urban Pathways

MALAYSIA
POLICY ENVIRONMENT PAPER

BERLIN, 2018

Wuppertal Institut

UN HABITAT FOR A BETTER URBAN FUTURE

UN environment

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This publication is part of the Urban Pathways project

The graphic design was prepared by Barbara Lah
(Climate Action Implementation Facility)

Berlin, 2018

Urban Pathways Secretariat

Berlin, Germany
www.urban-pathways.org

Supported by:

Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

based on a decision of the German Bundestag

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The Urban Pathways project helps delivering on the Paris Agreement and the NDCs in the context of the New Urban Agenda and the Sustainable Development Goals. It has established a facility in close cooperation with other organisations and networks active in this area to support national and local governments to develop action plans and concrete implementation measures to boost low-carbon urban development. This builds on UN-Habitat's role as "a focal point on sustainable urbanisation and human settlements including in the implementation and follow-up and review of the New Urban Agenda". The project develops national action plans and local implementation concepts in key emerging economies with a high mitigation potential. The local implementation concepts are being developed into bankable projects, focusing on the access to urban basic services to create a direct link between climate change mitigation and sustainable development goals.

Project concept

The project follows a structured approach to boost Low Carbon Plans for urban mobility, energy and waste management services that deliver on the Paris Agreement and the New Urban Agenda. The project works on concrete steps towards a maximum impact with regards to the contribution of urban basic services (mobility, energy and waste management) in cities to global climate change mitigation efforts and sustainable and inclusive urban development. This project makes an active contribution to achieve global climate change targets to a 1.5°C stabilisation pathway by unlocking the global emission reduction potential of urban energy, transport and resource sectors. The project will contribute to a direct emission reduction in the pilot and outreach countries, which will trigger a longer term emission reduction with the aim to replicate this regionally and globally to make a substantial contribution to the overall emission reduction potential.

Project aims

This project implements integrated urban services solutions as proposed in the New Urban Agenda providing access to jobs and public services in urban areas, contributing to equality and social coherence and deliver on the Paris Agreement and the Sustainable Development Goals. This is the first dedicated implementation action oriented project, led by UN-Habitat to deliver on inclusive, low-carbon urban services. Securing sustainability and multiplier effect, the project aims to leverage domestic and international funding for the implementation projects that will follow from this initiative.

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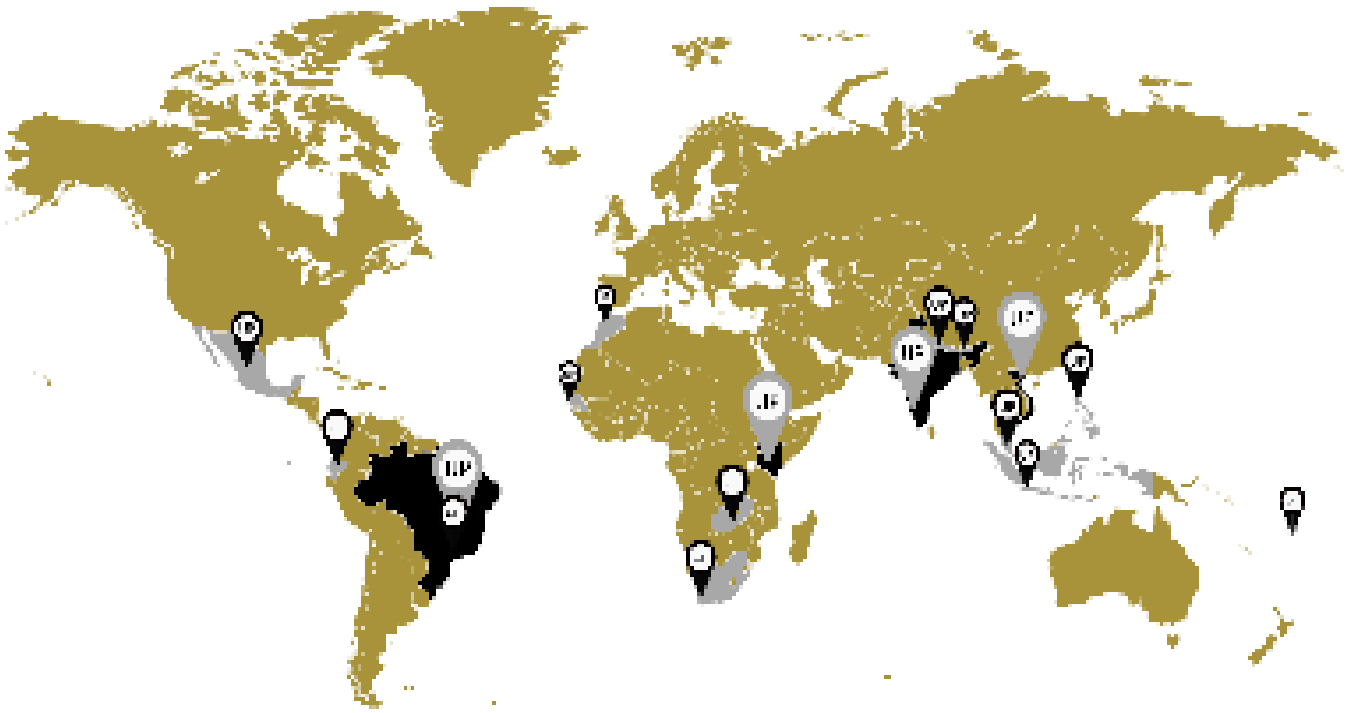

Urban Pathways Replication Cities

ABSTRACT

This paper aims to identify policy measures in line with the United Nations' New Urban Agenda and in the context of the respective Nationally Determined Contributions of Malaysia (MY). This paper reviews current developments to mitigate and adapt to Greenhouse Gas (GHG) emissions and focuses on national policies and implementation strategies of the Malaysian government in keeping with the Paris Agreement on Climate Change (2015). A brief overview of the Melaka's strategies to accordingly mitigate and adapt is conducted by reviewing the sectors of transport, energy and resource sector.

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COUNTRY OVERVIEW

Malaysia is the third largest economy in South-East Asia after Indonesia and Thailand. Over 75% of Malaysia's 31 million inhabitants live in cities. The urban density of Malaysia is 91 inhabitants per sq. km., ranking it 116th in the world in terms of population density. Kuala Lumpur, the capital city, is the most populated city with over 1.7 million inhabitants, and the metro region consists of over 7 million inhabitants. The cities following Kuala Lumpur in terms of inhabitants is George Town, the capital of Penang State, with over 700,000 inhabitants and Ipoh, the capital of Perak State, with just over 650,000 inhabitants.

According to the International Monetary Fund (IMF) the Gross Domestic Product (Purchasing Power Parity) of Malaysia is around US$1 trillion (International Monetary Fund, 2018). Malaysia is also classified as a middle-income country by the World Bank. Malaysia's economic advent in the 1970's was based on mining and agriculture and changed to include other sectors. Malaysia still is one of the largest exporters of palm oil, tin, and rubber.

In 2013, according to an International Energy Agency's (IEA) report, Malaysia had 207.25 Mt of CO_2 emissions, which translates to about 7 tonnes of CO_2/capita for that year. The CO_2 emissions in Malaysia are in an increasing trend since 2005 (154.6 Mt of CO_2 emissions or 6.8 metric tons per capita) (International Energy Agency, 2018; World Bank, 2018).

SUMMARY OF MALAYSIA´S NATIONALLY DETERMINED CONTRIBUTION (NDC)

Malaysia aims to reduce its GHG emissions intensity by 45% of GDP by 2030 relative to the emissions intensity of its GDP in 2005 (Ministry of International Trade and Industry, 2017). This includes 35% reduction on an unconditional basis and the remain 10% is dependent on the receipt of external support in the form of climate finance, technology transfer and capacity building from developed countries. The INDC however does not specify the area where the reduction is expected to happen. Malaysia's INDCs commits to continue pursuing green growth goals and investing in implementation of climate change mitigation programs, in line with its national priorities. In addition, its INDCs report has evaluated that there are major barriers in technology, institutional framework, and technical capacity. Though Malaysia's INDCs does not specifically highlight any targets in the sectors of energy, transport and resources, its INDCs does mention energy and waste under the scope and coverage of the INDC (UNFCCC, 2015).

Malaysia's INDC was developed based on the following policies that are in effect in the country:

- National Automotive Policy (2014)
- Low Carbon Cities Framework (2011)
- National Policy on Climate Change (2009)
- National Green Technology Policy (2009)
- National Energy Policy (2008)
- National Biofuel Policy (2006)

*The above list is a selected list of the recent policies mentioned in the INDC, more polices are listed in the INDC for Malaysia.

POLICIES AND STAKEHOLDER MAPPING

Political background

Malaysia is a federation of 13 states operating within a constitutional elective monarchy based on the Westminster parliamentary system. The head of state is its King, who is elected from among the nine monarchical states for a five-year term. Legislative power is divided between its federal and state legislatures. At the federal level, Malaysia's bicameral parliament consists of the House of Representatives and its Senate. The 222 members of its House of Representatives are elected in a general election, over a five years cycle. Its Senate consists of 70 senators of which 26 are elected by the state legislative assemblies, and the remaining 44 are appointed by its King on the advice of Malaysia's Prime Minister. The term of office for each senator is three years and may only be reappointed once.
The Prime Minister of Malaysia is the Head of Government, the Cabinet, and a member of the House of Representatives, and comes from the majority party in Parliament. Malaysia's Cabinet is also chosen from members of the majority party from both Houses of Parliament and has executive powers. Generally, Malaysia's Federal Government has overall responsibility for environmental matters, but the State Governments have jurisdiction over the management of natural resources, especially land, forestry and water.

Malaysia has been a regular participant in the UN'S Conference of Parties (COP) and the mid-sessional meetings under the UNFCCC. Its most recent participation was at the COP23 held in Bonn, Germany in November 2017. The minister for natural resources and environment, Dr Haji Wan Junaid bin Tuanku Jaafar reported during his participation at COP23 that considering the progress as of 2017, Malaysia is on track to achieve its GHG emissions reduction target by 2030.
Minister Jaafar also highlighted the initiatives and programs that Malaysia is implementing to achieve this target. The Green Technology Master Plan (2017-2030) would reduce 40% carbon intensity by 2020, through the implementation of Green Catalyst Projects.

At the state level, the unicameral state legislative assemblies are also elected every five years. The head of government for each of the nine monarchical states is Menteri Besar, and for the four remaining states the Chief Minister. They are chosen from the majority party in their respective legislative assemblies.
Local governments are administered by municipal councils, where councillors are appointed by the respective State Governments.

ENERGY

Over 90% of the energy in Malaysia is produced through natural gas, coal and oil. Hydroelectricity and biomass also contribute to a small share of energy production. Since 2010, the share of hydroelectricity, solar energy and biomasses has been increasing (Surhanjaya Tenaga, 2018).

Malaysia's Biennial update report to the UNFCCC from its Ministry of Natural Resources and Environment (Malaysia, 2015) identifies that its energy sector, especially from the manufacturing industries and construction, is a key source of GHG emissions. In total the energy sector contributes to 74.15% of GHG emissions, of which public electricity has the highest share (30.54%) followed by transport with 14.46% of emissions.

According to the mitigation actions reported by Malaysia at the COP23 in Bonn, Germany, in November 2017, renewable energy (RE) implementation through feed-in tariff mechanism has the potential to reduce 5,458 kt CO_2 equivalent by 2020, the highest potential in the sector. Furthermore, RE generation by non-feed-in tariff regulated public and private licenses and other mechanism are expected to reduce 2,179 kt CO_2 equivalent by 2020.

Malaysia also expects to reduce 13.113 million tonnes of CO_2 equivalent by 2030 in the energy sector through implementation of interventions under the Energy Efficiency Action Plan developed by the Ministry of Energy, Green Technology and Water (KeTTHA) (Malek, 2017). This action plan also targets to reduce electricity demand growth and consumption.

MOBILITY

Transport is mentioned under the energy sector of the biennial update report of Malaysia. Road transport is mentioned as one of the key sources of CO_2 emissions under the energy sector, with an estimate of 41,601.95 Gg CO_2 eq. contributing to 14.46% of the CO_2 emissions (Malaysia, 2015).

A report by the minister of natural resources and environment at the COP23 in Bonn, Germany in November 2017, showed that the launch of the Mass Rapid Transit (MRT) phase in Malaysia has removed 9.9 million cars in 2017. The report also mentions that a further 62-89 million cars will be removed between 2020 - 2030. The potential reduction from transport related interventions such as development and usage of energy-efficient vehicles (EEVs), using compressed natural gas in motor vehicles and rail-based public transport, has a cumulative potential emission reduction of around 1395 kt CO_2 equivalent by 2020 (Suruhanjaya Pengangkutan Awam Darat (SPAD), 2018).

The 11th five-year plan for Malaysia highlights a target of 40% modal share on public transport in the Greater Kuala Lumpur and Klang Valley region (GKL/KV). Malaysia's land public transport commission mentions that the average daily ridership in the GKL/KV rose by 3.7% in 2017 compared to 2016. The result is attributed to the expansion of the MRT in the region. Further positive results are expected once the construction of the Light Rail Transit (LRT). The completion of the projects will result in an increase of 136 km of rail network (Suruhanjaya Pengangkutan Awam Darat (SPAD), 2018).

WASTE MANAGEMENT

Waste sector, especially relating to solid waste disposal sites and palm oil mills are also listed in the table of key sources for GHG emissions under the CH4 (methane) category. Solid waste disposal sites contribute to 10.82% of the CH4 emissions or 31,127.82 Gg CO_2 equivalent. The emissions from the solid waste disposal were 89.2% of the total emissions from the waste sector in 2011.

The 11th five-year plan of Malaysia for the term 2016 -2020, highlights that waste shall be used as a resource through recycling and recovery for power generation. The plan highlights efficient waste management through guidelines on resource use and their effective enforcement.

MELAKA

Melaka city is the capital of Melaka state, with a population of over 480,000 inhabitants. According to a 2017 report, the city had a total of 1.742 million tCO_2 e, of which transportation has the highest (681,304 tCO_2 e), followed by waste disposal (574, 590 tCO_2 e) and energy consumption (466, 193 tCO_2e - both fuel consumption and electricity consumed).

Melaka city has adopted the Green City Action Plan (GCAP), which targets city transformation into a low carbon city. In the GCAP, energy, transport and waste are given importance among other projects such as tourism and water management.

The GCAP prioritises GHG emission reductions in the energy sector through preparing a comprehensive energy plan and implementing demonstration projects that reduce energy consumption. As of 2017, the city has implemented over 1600 LED street lamps, Melaka city plan also aims to further save 40 to 70% of energy by using timers and motion sensors to reduce energy consumption during low activity hours (Melaka City, 2017).

In terms of transport, the GCAP proposes to provide alternatives to motorised personal transport. The proposed interventions include a comprehensive transportation plan to prioritised public transport, convert existing public fleet to fuel-efficient vehicles. Melaka city administration has already introduced projects such as bike sharing, electric vehicles for public transport and the use of electric scooters as an alternative to conventionally fuelled scooters. Furthermore, with the support of international entities such as Institution for Transportation and Development Policy (ITDP) and the Asian Development Bank (ADB), the city has conducted studies to redesign streets for sustainable mobility and reduce the priority to personal cars.

The GCAP proposes to put Melaka city on a "zero-waste" path and reduce the GHG emissions from the waste sector. The strategies include expansion of waste collection, segregation and increase the recycling rate. As of 2017, Melaka city has already implemented policies that ban polystyrene and plastic bags. This ban was encouraged with a large awareness campaign titled "Don't Mess with Melaka".

Overall the GCAP for the city aligns with the Low Carbon City Framework (LCCF), and through the interventions in the GCAP, the 4 key areas (Urban Environment, buildings, Urban Infrastructure, and Urban Transport) in of the LCCF are addressed (Melaka City, 2017).

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