Assessment Sheet

An Imminent Threat:

A Call To Strengthen And Restructure Climate Change Governance In Bangkok

Target Recipient: Aswin Kwanmuang

As the Governor of Bangkok, Kwanmuang holds chief responsibility for policy formulation undertaken by the Bangkok Metropolitan Administration. Therefore, Kwanmuang holds significant influence over the priority level of climate change mitigation and the efficiency of policy execution in Bangkok.

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Policy Briefing Front Cover

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Figure 1, Residents stand on flooded streets in Pathum Thani province, on the outskirts of Bangkok, October 14, 2011 (Subprasom, 2011).

University of Warwick, April 20th 2019.

Policy Briefing Document

An Imminent Threat: A Call To Strengthen And Restructure Climate Change Governance In Bangkok

Executive Summary:

There remains only 11 years to mitigate against the climatic changes which severely threaten environmental security, sustainable governance and socio-economic development in Bangkok. Hence, the Bangkok Metropolitan Administration should ensure that strong local-scale mitigation strategies are formulated and executed. Despite current targets inciting action, failures to outline the connections between local targets and global thresholds limit their success. Ambitions are further constrained by a lack of inter-agency co-ordination within municipal governance, as well as the Bangkok Metropolitan Administration's overall focus on improving car mobility. In order to mitigate climate change to the greatest effect, policies should be framed within the context of adhering to global targets and biophysical thresholds. As demonstrated in the case study of Rizhao, horizontal integration should also be undertaken between agencies and stakeholders since it can facilitate more efficient governance. Furthermore, the Bangkok Metropolitan Administration must shift investments towards improving public transport accessibility, creating car-free zones and imposing parking restrictions, so that prospects of sustainable development can be secured within Bangkok.

Foundational Science: Discussion & Analysis:

> **Box 1: Planetary Boundaries Framework**
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> The biophysical processes which regulate the Earth system have been defined as PBs. When humans emit GHGs, they risk surpassing the climate change PB.
>
> As a core PB, this severely threatens global socio-ecological resilience and, consequently, the feasibility of achieving the United Nation's Sustainable Development Goals (SDGs).
>
> (Rockström et al., 2009; Steffen et al., 2015).

Since the mid-20th Century, atmospheric concentrations of greenhouse gases (GHGs), such as carbon dioxide, have risen dramatically to levels not experienced for at least 800,000 years (Met Office, 2018). As a result, more solar energy is becoming trapped within the Earth system, causing climate change (Met Office, 2018). This is defined by long-term changes in average global temperatures and weather patterns (Met Office, 2018). Although scepticism exists, 97% of climate scientists agree upon the ontologically objective claim that humans are inducing climate change (Cook et al., 2013). The Earth system, upon which humans have become dependent, is therefore being shifted away from the relative stability it has exhibited over the last 10,000 years (Rockström et al., 2009). Restricted by an 11 year timescale within which a 1.5°C rise above pre-industrial temperatures can be avoided, the anthropogenic (human-induced) release of GHGs into the atmosphere puts society at critical risk of surpassing a core planetary boundary (PB) (see Box 1) and provoking "dangerous climate change" (Xu and Ramanathan, 2017, p.10315) (Rockström et al., 2009; Intergovernmental Panel on Climate Change [IPCC], 2018).

Climate change is currently undermining the prospects of meeting the needs of the future citizens of Bangkok and thus, sustainable development (World Commission on Environment and Development, 1987). Flooding and sea level rise, which climate change is set to exacerbate, pose the most significant threats to Bangkok as it is presently situated just two metres above sea level (Tanner et al., 2009; Yusuf and Francisco, 2009). Increased heat stress, disease and air and water pollution also threaten the health, energy consumption, and labour productivity of Bangkok's people with disproportionate effects on the poor (Marks, 2011). Therefore, the attainability of SDGs 3, 8 and 10, of which Thailand's current performance needs improvement (see Figure 2), is reduced (Sachs et al., 2018). Moreover, these effects shall be exacerbated by a rising influx of climate refugees and the city's 2% annual population growth (Tanner et al., 2009; World Bank, 2015). Hence, sustainable socio-economic development in Bangkok demands effective climate change mitigation.

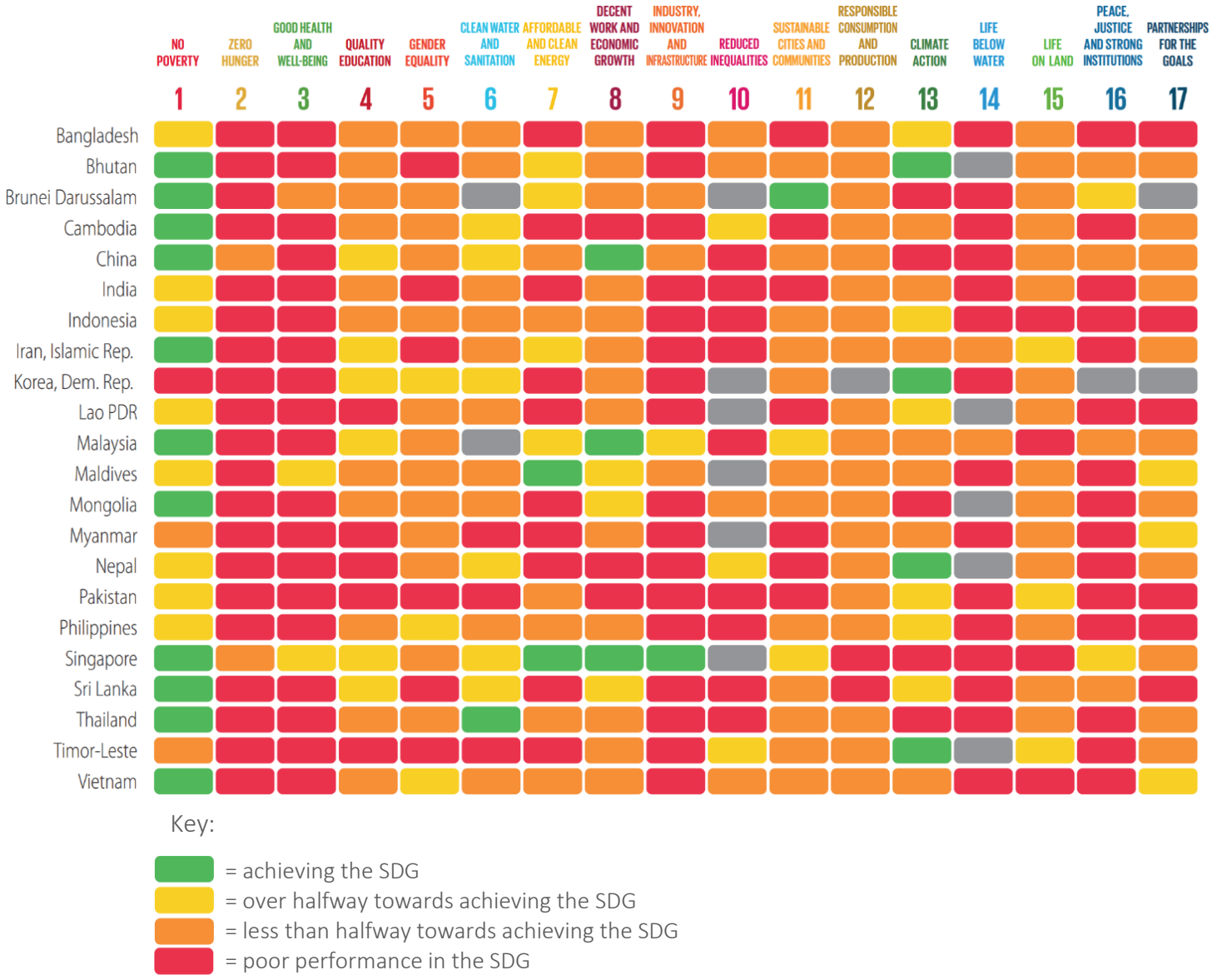

Figure 2, 2018 SDG Dashboard for East and South Asia, adapted from Lafortune et al., 2018 and Sachs et al., 2018, p.20.

Assessment of Existing Governance:

The Bangkok Metropolitan Administration (BMA, 2015), which governs Bangkok, facilitates active climate change governance through its ‘Master Plan on Climate Change 2013-2023’ (MPCC). This plan encourages mitigation since it outlines clear targets to reduce the GHG emissions produced by 2020, when compared to business as usual (BMA, 2015). However, these targets appear arbitrary since the MPCC does not justify why a 16.8% reduction within transport, for example, is the most feasible or desirable outcome (BMA, 2015). This arbitrariness is furthered by the MPCC neither relating local targets to the adherence of the climate change PB, nor critical global thresholds such as a 1.5°C rise above pre-industrial temperatures (Rockström et al., 2009; BMA, 2015; IPCC, 2018). This is problematic because ambiguity makes it difficult for civil society to understand how and why climate change is an important local concern, particularly for the attainment of the SDGs (Lindseth, 2004). According to Gard Lindseth (2004), the extent of public participation in, and acceptance of, mitigation proposals is likely to be reduced as a result. Consequently, the BMA’s efforts to mitigate climate change are rendered less effective and prospects of sustainable development in Bangkok become less achievable.

The literature states that the most significant determinant of the success of climate change mitigation policies is the degree to which relevant actors, stakeholders and agencies are horizontally integrated (see Box 2) (BMA, 2015; Niedertscheider et al., 2018). Therefore BMA's multifaceted nature increases the likelihood of climate change mitigation policies experiencing implementation failures (Tanner et al., 2009; BMA, 2015). This was demonstrated in 1997 when the 'Hopewell Project's' light railway was terminated as a result of conflicts with other transportation policies just two years into construction (Tanner et al., 2009; Mahitthirook, 2012). These conflicts have been attributed to the fact that thirty-seven agencies are involved in the management of transportation services, but also to the insufficient levels of collaboration between them (Tanner et al., 2009; Bangkok Post Editorial, 2018). Paula Kivimaa and Per Mickwitz (2009) suggest that such conflict occurs because it is neither guaranteed that a single agency shall recognise the ambitions of another agency in policymaking, nor is a space created for the resolution of conflicting strategies before they are implemented. If left unresolved, this relatively unsustainable form of governance could hamper prospects of long-term socio-economic development in Bangkok.

Box 2: Horizontal Integration

The degree to which a particular level of governance (i.e. municipal) is horizontally integrated depends upon the level of co-ordination between the agencies operating at that level.

Promoting horizontality in policymaking and implementation could make climate change governance more coherent

(Kivimaa and Mickwitz, 2009; Mickwitz et al., 2009).

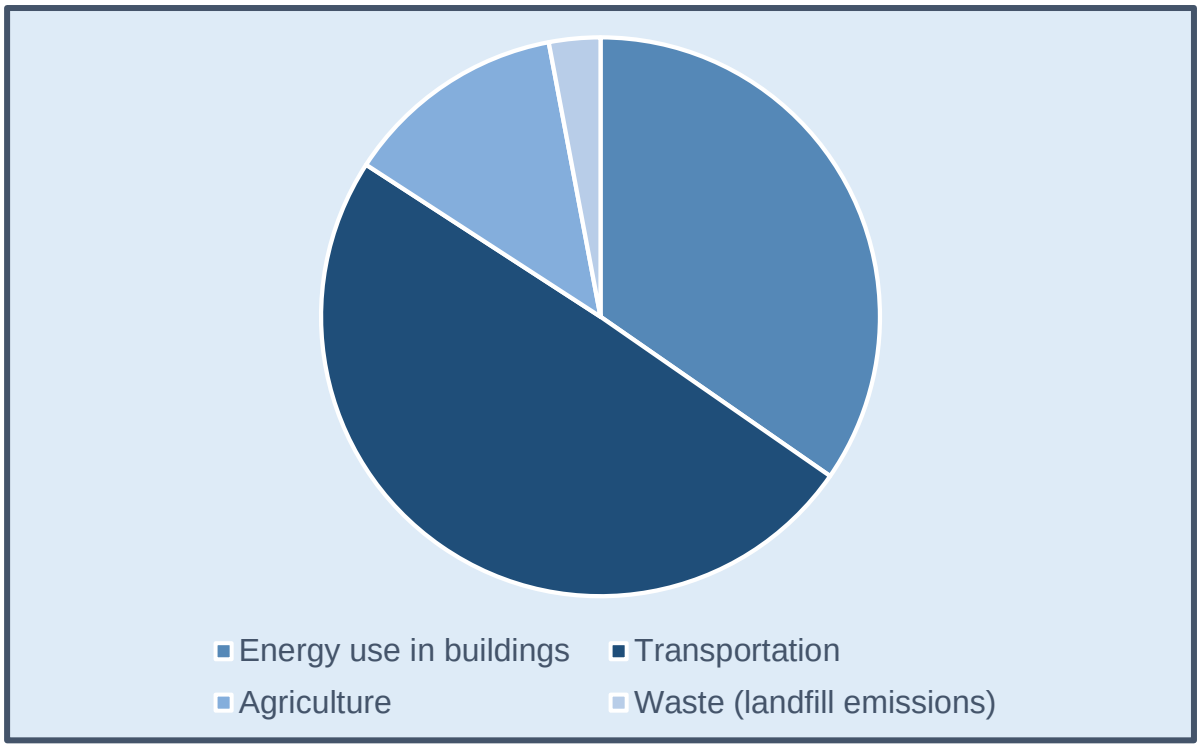

Figure 3, Carbon dioxide emissions by sectors in Bangkok in 2005, adapted from Croci et al., 2011, p.62.

The MPCC successfully allocates scarce resources according the relative contributions of each sector to Bangkok's GHG emissions. For instance, it focuses efforts upon developing a more sustainable public transport network since transportation accounts for 50% of Bangkok's emissions (see Figure 3) (Croci et al., 2011). Unfortunately, these ambitions are hindered by the BMA prioritising improvements in car mobility (Olsson and Tanangsnakool, 2017). Meanwhile, public transport provisioning for the growing population on the city fringes remains insufficient (BMA, 2015; Olsson and Tanangsnakool, 2017). Analyses predict that an increasing proportion of the population will consequently rely on private car transportation over the coming years, causing Bangkok's GHG emissions to increase (Croci et al., 2011; Olsson and Tanangsnakool, 2017; Bangkok Post Editorial, 2018). It is thus more likely that the climate change PB will be surpassed (Rockström et al., 2009). Moreover, Box 3 demonstrates how failing to address this issue would hinder Bangkok from gaining momentum towards related SDGs. Whilst concerns regarding the upfront costs of bringing public transport safety and accessibility to a standard rivalling that of private transport may exist, Michael Replogle (2014) from the Institute for Transportation and Development Policy states that making such an improvement remains one of the most cost-effective methods by which GHG emissions can be reduced. Considering the global imminence of

Box 3: Public Transport and Sustainable Development

In addition to mitigating the risks associated with climate change, developing the city's public transport systems could bring the following benefits to Bangkok:

- Better health and wellbeing (SDG 3) as a result of less air pollution and fewer road accidents.
- Increased gender equality (SDG 5) since high costs may prevent women from using public transport.
- Economic gain (SDG 8) for encouraging the use of public transport can help to alleviate traffic congestion which currently results in Bangkok losing 1-6% of its GDP via fuel wastage and emissions.

(United Nations Conference on Housing and Sustainable Urban Development, 2017).

triggering “dangerous climate change” (Xu and Ramanathan, 2017, p.10315) and the economic and social costs this may bring to Bangkok, it is clear that the BMA must reallocate its resources so as to more effectively harness sustainable development.

Governance Recommendations:

1. **Frame Targets within the Global Context**

   Targets should be communicated within the context of adhering to the PB framework and a global temperature rise of 1.5°C above pre-industrial levels (Rockström et al., 2009; United Nations Framework Convention on Climate Change [UNFCCC], 2018). Since embracing these changes will enable the citizens of Bangkok to gain a better understanding of the context and rationale behind the BMA's emissions targets, the likelihood of their achievement shall be enhanced (Lindseth, 2004). Consistently, the government and civil society of Jamaica, a small island developing nation, have advocated and adhered to emissions targets which strive to limit global temperature rise to 1.5°C (UNFCCC, 2015; Sealey-Huggins, 2017). Simultaneously, Jamaica is experiencing development within health, gender equality and the economy (Sachs et al., 2018). Jamaica therefore serves as an example of how strong climate change mitigation can be achieved in parallel to the procurement of sustainable economic and social development in Bangkok (UNFCCC, 2015).

2. Facilitate Horizontal Integration

As demonstrated by the Rizhao case study (see Box 4), horizontal integration provides a key route by which governance institutions can maximise the success of the MPCC, public transport initiatives and interconnected socio-economic developments (Kivimaa and Mickwitz, 2009). This is because;

a) Platforms for inter-agency collaboration enable stakeholders to discuss their concerns and objectives during policymaking and thus, plans are more likely to adhere to the needs of all stakeholders (Tanner et al., 2009).

b) Delays to policy implementation are less probable since there is a greater likelihood of identifying and resolving conflicts before the policy is finalised (Kivimaa and Mickwitz, 2009; Tanner et al., 2009).

c) Collaboration helps to generate awareness of the local socio-economic benefits of developments and thus, support for policy implementation among civil society should be enhanced (Lindseth, 2004)

Box 4: Horizontal Integration: The Case of Rizhao

Horizontality is characteristic of municipal governance in Rizhao, China. For instance, Rizhao's Eco-City Plan 2001-2020 was created out of synergies between government departments, such as the Agricultural and Urban Planning departments, and other stakeholders through public surveys and meetings with local fishery representatives. Consequent to the collaborations which resulted, Rizhao has experienced remarkable success in its efforts to mitigate climate change and facilitate opportunities for socio-economic development:

- The usage of solar water heaters in city households increased from 70 to 99% in just ten years.
- The city emits 3.25m tonnes less of carbon dioxide and thus mitigates against climate change.
- The improved environmental reputation of Rizhao has played a substantial role in attracting foreign investment and tourism into the city.

(Bai et al., 2009; Local Governments for Sustainability [LGfS], 2012).

3. **Prioritise Public Transport**

Once a platform has been set up for inter-agency consultation, the BMA should produce a unified transport policy aiming to mitigate climate change and achieve GHG reduction targets framed within the global context. As part of this policy, the BMA should;

a) Progressively shift car mobility investments towards increasing public transport accessibility,

b) Disincentivise car travel via the creation of car-free zones and car parking restrictions.

Evidential success of such policies was demonstrated in Perugia, Italy, where an 8% reduction in car usage was facilitated in just five years (LGfS, 2014). Through implementing these policies alongside the MPCC, the BMA shall strengthen climate change mitigation and secure more sustainable forms of social and economic development for Bangkok (BMA, 2015).

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