



## Climate Change Mitigation in Emerging Economies The Case of Indonesia – Hot Air or Leadership?

### Summary

It was at the climate change conference in Bali in 2007 (COP 13) that developing countries first agreed to initiate “nationally appropriate mitigation actions” (NAMA) in accordance with their respective capacities. At COP 15, in Copenhagen, developing countries submitted emission-reduction targets. Emerging economies, led by Indonesia and Brazil, committed to reducing their greenhouse gas emissions significantly below business as usual (BAU) by 2020. Mexico and the Dominican Republic have also recently passed climate laws.

Indonesia ranks third after China and the United States in emitting greenhouse gases. This is mainly due to emissions from deforestation and peatland conversion. Since COP 13 Indonesia has sought to showcase itself as an active global leader in climate diplomacy. Despite quite low per capita emissions of around 2 tonnes of CO<sub>2</sub> equivalents per year, the country announced plans to reduce its emissions up to 41 per cent below BAU by 2020. For achieving this target, Indonesia developed a detailed greenhouse gas reduction plan. Most of the emission reductions are planned to be achieved in the forestry and agriculture sectors. Anyhow, fossil fuel-based emissions from the transport and energy sectors are growing and might surpass land-based emissions after 2020.

Indonesia’s emission-reduction strategy is a good starting point for a transformation towards a low-carbon economy, especially in the land-use-related sectors. Planned activities such as the regional incentive scheme to promote climate-friendly activities and the domestic carbon market will go far beyond those implemented in many developed countries. However, the success of Indonesia’s mitigation policies depends mainly on the ability to mobilise political capacities to overcome existing barriers, which may hinder the transformation from a resource- and emission-intensive development path towards a more sustainable and long-term-orientated development path. Important steps to solve key challenges that would confirm the climate leadership claims of the Susilo Bambang Yudhoyono presidency are:

- a climate law adopted by The People’s Representative Council (Parliament) would augment the domestic legitimacy and international credibility of Indonesia’s mitigation efforts;
- a coherent BAU scenario that is third-party verified minimises the risk of virtual emission reductions (so-called hot air);
- incentives for local stakeholders are crucial for encouraging mitigation activities on the local level;
- the extension of the forest moratorium could contribute heavily to Indonesia’s reduction targets.

## Mitigation in emerging economies

**Emissions in developing countries surpassed emissions in developed countries in 2009.** Yet, per capita emissions are, on average, still much lower than in developed countries. Nevertheless, the prevention of dangerous climate change, which is the main objective of the United Nations Framework Convention on Climate Change (UNFCCC), can only be achieved through mitigation efforts in all countries. Since 1992, the UNFCCC has called for effective action against climate change by all countries in accordance with their common but differentiated responsibilities and capabilities. In the 1990s, greenhouse gas mitigation was mainly an issue for developed countries. The growing global importance of emerging economies changed the game in the 2000s. Indonesia and Brazil, as members of the newly established G20, tried to showcase themselves as active global players that are able to respond to global challenges such as climate change, and therefore initiated efforts to develop proactive climate policies.

**In the aftermath of Bali (2007), and more concretely after Copenhagen (2009), emerging economies initiated domestic strategies and policies to implement their announced emission-reduction targets.** Brazil committed to reducing its greenhouse gas emissions between 36.1 and 38.9 per cent by 2020. The target builds on effective and highly successful policies that were introduced in 2003 in order to reduce deforestation in the Amazon and in the Cerrado. Other emerging economies such as China and Malaysia committed to reducing the carbon intensity of their economies by 40 per cent by 2020. Ranked third in emitting greenhouse gases globally, Indonesia has decided to reduce its greenhouse gas emissions voluntarily below 26 per cent BAU, or with international support below 41 per cent BAU by 2020. **Indonesia's climate commitment, depending on the BAU scenario, could contribute significantly to the global 2°C target that was agreed on at COP 15.** In response, the Norwegian government committed to supporting Indonesia with up to US\$ 1 billion in results-based aid if the country manages its climate goals.

## Indonesia's policies to reduce greenhouse gas emissions

**Since COP 13 in Bali, Indonesia has sought to be considered as a leader in global climate diplomacy.** The Indonesian COP presidency was quite successful in facilitating the Bali Action Plan, which was, at that time, regarded as a major step towards a binding post-2012 agreement. It is the first document to consider mitigation actions from developing countries. The Bali Action Plan is also regarded as the kick-off for the Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism. Indonesia also pushed for a strong position of the Association of Southeast Asian Nations (ASEAN)

on climate change during its chair period in 2011. These efforts materialised into statements regarding climate change adaptation and the promotion of climate-friendly technologies in the Bali Concorde III, which is one of the most important agreements of ASEAN.

Indonesia's emission-reduction target came into force in 2011 through Presidential Regulation No. 61/2011. The regulation provides the legal framework for mitigation actions in Indonesia. It includes a detailed work plan for emission reductions, called RANGRK (Rencana Aksi Nasional Pengurangan Emisi Gas Rumah Kaca) and refers to mitigation actions that are – in most instances – part of the short- and mid-term national development plans. In total the strategy consists of 123 projects and programmes in five areas, namely: agriculture, forestry/peatland, energy/transport, industry and waste management. **Eighty per cent of the overall reduction target is planned to be achieved through changes in land-use.** Land-based emissions are the key to Indonesia's climate goals and will be discussed below in detail.

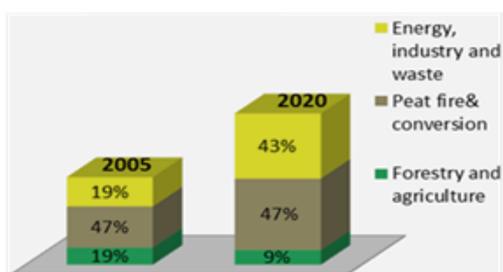
**Indonesia is planning to reduce its emissions below a BAU- or baseline scenario. A BAU scenario is a projection of greenhouse gas emissions without intervention of mitigation policies for a given time period.** BAU scenarios are based upon models that are used to predict the amount of greenhouse gas emissions (in the Indonesian case, from 2012–2020). Indonesia follows a bottom-up approach. Each province calculates its own BAU scenario, which is then summed up towards the national BAU scenario. Since models are building on assumptions, the political process that decides upon the assumptions is crucial. Which policies are considered to be business as usual and which are considered to be new and additional mitigation actions? Due to the fact that most of the mitigation actions that are part of the RANGRK strategy are already included in the national development plans (Nugroho 2012), the following question arises: To what extent is the RANGRK strategy really leading to emission reductions in addition to BAU? Another risk that is related to mitigation policies and BAU scenarios is the question of hot air. **Hot air – or in other words virtual emission reductions – may occur if the BAU scenario that was agreed on sets higher emission levels than those in the measured or projected emissions curve for a given time period.** This would generate virtual emission reductions, or at least emission reductions that would happen anyway without any mitigation effort.

**RANGRK follows a nested governance approach** and consists of the above-mentioned national work plan and provincial work plans (RADGRK), which have to be prepared by the provincial governors. This nested approach allows for taking the wide regional development disparities among the Indonesian provinces into consideration. However, only nine provinces were able to hand

in their RADGRK by the September 2012 deadline. Even by December 2012, some provinces were neither able to finalise their local strategy nor their BAU scenarios (BAPPENAS 2012). To what extent this is caused by the intentional refusal of local governments or by the lack of resources is hard to assess, but it may reflect the fact that mitigation is primarily driven by the presidential and ministerial bureaucracy and that reducing greenhouse gases is still not very high on the agendas of provincial governments (cf. Nugroho 2012).

Even though land-based emissions are ranked first, emissions **in the transport and energy sector are growing and might surpass them after 2020**. The RANGRK therefore includes strategies: to increase the energy efficiency of the industrial sector, to increase renewable-energy production and to promote low-carbon mass transport. In addition, emission standards for passenger cars and a vehicle tax considering CO<sub>2</sub> emissions are planned. The actions included in the RANGRK are complemented by a feed-in tariff for renewable energy producers and by a recent decision to cut electricity subsidies. The transformation towards a low-carbon economy will depend on the political will to strengthen incentives and sanctions that encourage low-carbon investments. Tax incentives and the cutback of energy subsidies are steps in the right direction that should be complemented by a cutback in fuel subsidies.

**Table 1: Indonesia's emissions**



Source: National Council on Climate Change 2009 (own draft)

**Incentives for local stakeholders are crucial for encouraging mitigation activities at the local level.** RANGRK envisages a fiscal transfer scheme that would incentivise climate-friendly activities by local governments. This instrument could be performance-based and would initially provide funding for reforestation and REDD+ and could be expanded to other sectors. Additional incentives for climate-friendly behaviour are going to be created **through the development of a domestic and voluntary carbon market (NCS, Nusantara Carbon Scheme)**. The NCS should provide non-public funding sources for mostly small-scale mitigation projects. Links with other carbon-market schemes are being pursued. Potential candidates are the initiatives in Australia, California and Québec. Yet, current carbon-market prices are low and may not create

sufficient incentives to encourage actors to invest in mitigation. In the case of REDD+, opportunity costs for other land-uses such as oil palm cultivation at current market prices are hard to compensate through private REDD+ schemes or publicly funded compensation schemes.

### Land-use – the key to mitigation in Indonesia

**Eighty per cent of Indonesia's mitigation commitment is planned to be reached through significant changes in land-use policies**, and in particular through the implementation of REDD+. A key challenge is that Indonesia's rural development regime is emissions-intensive and builds mainly on rapid resource extraction. Drivers of land-based emissions in Indonesia are mainly peatland and forest conversion and degradation. Degradation processes are mainly caused by illegal logging and peat fires, whereas commercial agriculture and open-cast mining are responsible for large-scale forest and peatland destruction. The achievement of Indonesia's climate goals depends basically on the ability to convince the beneficiaries of the existing rural development regime to develop climate-friendly land-use practices.

According to the most recent numbers published by the Ministry of Forestry (MOF), Indonesia seems quite successful in combating deforestation. **By 2011, the country reduced its deforestation rate by 73 per cent below the 2000–2006 average, which implies avoiding 489 million tonnes of CO<sub>2</sub> equivalent of greenhouse gas emissions.** It is not yet clear how much this reduction was achieved due to recent improvements in forest governance, as claimed by the responsible ministry. However, the chosen reference period (2000–2006) was characterised by high deforestation rates caused by the collapse of the Suharto regime and the data itself is challenged by environmental advocacy groups.

RANGRK and the embedded REDD+ strategy are attempts to demonstrate Indonesia's willingness to initiate a low-carbon land-use policy. Beyond the intergovernmental fiscal transfer scheme, the RANGRK strategy mostly advocates the absorption of additional CO<sub>2</sub> through the development of timber, cocoa and oil palm plantations on degraded land and the promotion of community forestry. In contrast to RANGRK, the national REDD+ strategy focuses more on improvements of the regulative framework in order to create good forest governance. Priority areas are spatial planning, land tenure and law enforcement. Since land tenure conflicts could discourage potential REDD+ investors and the absence of law enforcement could undermine forest conservation, the achievement of these tasks is fundamental for land-based mitigation activities. Given that influential stakeholders (e.g. plantation businesses) benefit from the existing non-transparent conditions of forest governance, immediate success seems unlikely. However, a good starting point is the "One Map" initiative, which could significantly improve land-use planning.

The “One Map” initiative seeks to contribute to an integrated spatial planning process by developing a single land-use map. Until now, nearly every institution has used its own maps. Exchange of information on delivered concessions and land titles was uncommon. As a consequence, concessions overlap with protected forest or community forest areas. By the end of 2013, a reference map will be published, and by 2014 this map will be mainstreamed. Though, not directly related to mitigation, the “One Map” initiative is a precondition for the adequate consideration of mitigation in spatial planning.

The moratorium on new forest conversion licences in natural primary forest and peatland areas is probably the most important effort to reduce land-based emissions and probably the most significant policy to reach the climate goals. The regulation (Presidential Instruction No. 10/2011), which is valid for two years (2011–2013), bans new forest and land conversion business licences (e.g. oil palm concessions) and protects 22.5 million hectares of additional forest and peatland (Murdiyarso et al. 2011). The moratorium was a precondition for entering the US\$ 1 billion deal with Norway (known as the Norway-Indonesian Partnership on REDD+). Mostly regarded as a good start for reaching the climate goals, the moratorium has been contested. Whereas agro- and forest businesses tend to consider it as a development barrier, NGOs and academia mostly criticise it for being inconsistent. For example, there are exceptions for food and energy security and a weak definition of “natural forest” that does not entail secondary forest and degraded primary forest. The additional forest protection thus remains low. The moratorium ends in May 2013. An extension has been recommended by the MOF, but it is opposed by the Ministry for Agriculture and by the powerful oil palm lobby.

### Hot air and legal challenges

Absolute emission reductions depend mainly on the chosen BAU scenario. Establishing a high emission BAU scenario would augment the likelihood of virtual emission reductions that would be achieved without any mitigation effort. Thus, the development of BAU scenarios comprises a potential for pervasive incentives, since establishing a lower emission BAU scenario would imply a lower potential for results-based payments. That would require stronger efforts to achieve the same amount of absolute emission reductions. Therefore, it is of key importance to develop an adequate, verifiable and internationally accepted BAU scenario. Yet another challenge is the legal foundation of Indonesia’s mitigation framework and its democratic legitimacy.

All recent regulations, whether related to RANGRK, REDD+ or to the moratorium, do not directly involve Indonesian legislation. They just draw on presidential regulations and ministerial regulations, which are both – according to the Indonesian law hierarchy (defined in Law 10/2004) – subordinate to any law. This implies theoretically that nearly the whole mitigation framework is subordinate to any Indonesian law. Moreover, it is contested whether disregarding the presidential instruction, which is the legal foundation for the moratorium, implies legal consequences or not (Murdiyarso et al. 2011).

If implemented properly, RANGRK – and especially the national REDD+ strategy – will have a fundamental impact on Indonesian society. A broad discussion involving legislative bodies on the national and sub-national levels would enhance the domestic legitimacy and the international credibility of the strategy. Since the 2014 presidential elections are just around the corner, a climate law would ensure the permanence of Indonesia’s mitigation efforts. Role models can be Mexico and the Dominican Republic. Both recently passed parliament-backed climate laws regulating emission-reduction targets and mitigation activities.

### Literature

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