

DISCUSSION DOCUMENT

Indonesia's National Mitigation Actions: Paving the Way towards NAMAs

Syamsidar Thamrin (Bappenas)¹

Prepared for the
CCXG/Global Forum on Environment
Seminar on MRV and Carbon Markets²

28-29 March 2011, Paris

¹ The author would like to thank Heiner Von Luepke, and Ko Sakamoto for valuable comments on an earlier draft. All remaining errors are those of the author and should not be attributed to Bappenas. For more clarification, please email: sthamrin@hotmail.com.

² The CCXG Secretariat would like to thank the EC, Germany and Japan, who provided funding specifically for this event, as well as OECD member countries that provide funding for the Global Forum. They would also like to thank Canada, Finland, Japan, Netherlands, Norway, Sweden, Switzerland, UK and US for their direct funding of the CCXG in 2010, and OECD and IEA for their in-kind support.

1. Introduction

Indonesia is characterized by both high levels of emissions of greenhouse gases, placing the country among the top ten emitting nations worldwide as well as being strongly negatively affected by the impacts of climate change. Emissions of GHGs amounted to 1.79 Gt CO₂e in the year 2005, with the major share of emissions coming from land use change and forestry, followed by energy, peat fire related emissions, waste, agriculture and industry (SNC, 2009).

Table 1. Summary of GHG emission from 2000-2005 from all sectors (in Gg CO₂e)

| Source | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Energy | 280,937.58 | 306,774.25 | 327,910.62 | 333,950.21 | 372,123.28 | 369,799.88 |
| Industrial Process | 43,043.52 | 49,810.15 | 43,716.26 | 47,901.63 | 47,985.20 | 48,733.38 |
| Agriculture | 75,419.73 | 77,500.80 | 77,029.94 | 79,828.80 | 77,862.54 | 80,179.31 |
| LUCF | 649,254.17 | 560,546.00 | 1,287,494.79 | 345,489.33 | 617,423.23 | 674,828.00 |
| Peat Fire | 172,000.00 | 194,000.00 | 678,000.00 | 246,000.00 | 440,000.00 | 451,000.00 |
| Waste | 157,327.96 | 160,817.76 | 162,800.37 | 164,073.89 | 165,798.82 | 166,831.32 |
| Total With LUCF & peat fire | 1,377,982.95 | 1,349,448.96 | 2,576,951.98 | 1,217,243.86 | 1,721,193.07 | 1,791,371.89 |
| Total Without LUCF & peat fire | 556,728.78 | 594,902.96 | 611,457.19 | 625,754.53 | 663,769.84 | 665,543.89 |

¹Note: Emission from peat fire was taken from van der Werf et al (2008). ²Estimated based from MoF (2009) and Bappenas (2009a),

³Emission 2001 was not included in determining the trend

Source: SNC, 2009

In response to the challenges to reduce these GHG emissions, Indonesia is in the process of establishing a national policy framework to address climate change issues. This paper aims to present the current state of this process, including:

1. **An overview of the planning of Indonesia's NAMA programme**, including an indication of priority sectors and actions, and how these are anticipated to contribute to the 26% and 41% mitigation goals. It is examined how actions might be distinguished between those that are considered unilateral actions and those that are financed with international support, including via the carbon market.
2. **How Indonesia's NAMAs may be measured, reported and verified (MRV)**, including a discussion of how baselines are being established in the sectors relevant to the mitigation actions, what the principle challenges to be overcome are, what key assumptions are and how expected business-as-usual emissions may vary according to these assumptions.
3. **Financing Indonesia's NAMAs**, A discussion of how Indonesia's NAMAs will be financed will be given. A discussion on planned use of carbon market instruments to supplement the NAMA programme, including integration of new existing and new CDM projects as well as new market mechanisms will also be provided. It gives an indication of how, for actions supported internationally, carbon market finance may interact with other international sources of mitigation finance.

2. Overview of the planning of Indonesia's NAMA programme

2.1 Indonesia's National Action Plan

Indonesia has prepared a Presidential Regulation for a National Action Plan For Reducing Greenhouse Gas Emissions (*Rencana Nasional Penurunan Emisi Gas Rumah Kaca "RAN-GRK"*³) that will provide the basis for various related Ministries/Institutions as well as the Regional Governments to implement activities that will directly and indirectly reduce the greenhouse gas (GHG) emissions.

This regulation is prepared as a follow-up to Indonesia's commitment, which was presented by President Susilo Bambang Yudhoyono in his speech at the G-20 summit in Pittsburgh, United States, on 25th September 2009. The President established a target for Indonesia of a 26% reduction in GHG emissions below the "Business-as-Usual" level by 2020, based on unilateral actions, and a further reduction of up to 41% below "Business-as-Usual," if adequate international support were made available to the Government of Indonesia.

The RAN GRK is expected to become an integrated, concrete, measurable and practical action plan for the period between 2010 and 2020. The GHG emission reduction activities within this action plan shall be prepared by taking into account the national development principles and priorities, mitigation potentials and feasibility, as well as needed financing sources for its implementation. The action plan is thus expected to be doable and well-planned.

A comprehensive study on national emissions baseline and various emissions reduction scenarios per sector is still needed. The emission reduction scenario per sector is needed for the preparation of target of activity and action plan included in the RAN-GRK. Such comprehensive study is expected to provide a picture of the implication of the GHG reduction target on sectoral and national growth and its cost benefit calculation.

2.2 Objectives and Targets of National Mitigation Actions

The objectives of National Action Plan in respect to mitigation are as follows:

- a) To design programs and activities in order to reduce the GHG emissions, particularly in forestry and peatland, agriculture, energy, industry and transportation, as well as waste sectors. This shall be done at national and regional levels within the framework of sustainable development.
- b) To serve as a guidance on investment relating to coordinated GHG emission reduction at national and regional levels;

2.3 Details of the National Action Plan

The whole action plan is focused on national GHG emissions reduction by 26% by 2020 from the emission projection of total emission from the priority sectors (BAU). Programs/activities that will be prioritized are those whose implementations are funded by their own resources (Unilateral/Nationally Supported NAMAs) both from the State Budget and the Regional Budget (including loan), the private sectors and the community, based on the following general criteria:

- a) Conformity with sustainable development principles;
- b) The effectiveness of cost utilization for integrated GHG emission reduction based on the lowest cost principle;

³ Status of the RAN GRK per March 2011: Submittend to the legal office of the GoI cabinet for signature.

- c) The easiness of implementation by taking into account the political, social and cultural aspects;
- d) In line with the national and the regional development priorities in the activity location;
- e) Based on the principle of mutual benefits by prioritizing development/activity programs that contributed to the GHG emission reduction (Co-Benefit).

In order to ensure the involvement and the sense of ownership of the RAN-GRK by the government Institutions, the RAN-GRK is prepared by using a participatory method, through involving all relevant Ministries and institutions. The resulting priority actions in the RAN-GRK reflect the vision and priority of each government Ministry and Institution. Furthermore Bappenas (the National Planning Agency) will conduct a policy development and analysis process to be integrated with the national development planning.

In determining the emissions reduction target, the national Business-As-Usual (BAU) needs to be accurately recalculated, given the fact that the BAU emissions level scenario for various sectors still need to be evaluated. The total percentage target will be the same (26%), but the total amount of CO₂ reduction and the distribution among sector may changed based on the better calculation. Therefore, the RAN-GRK needs to be reviewed, monitored and evaluated periodically based on the current development in Indonesia and the results of the international negotiation in the UNFCCC.

The preparation of the National Mitigation Action Plan cannot be separated from the mainstream of sustainable development mandated by the long-term development plan (RPJPN 2005-2025) and the mid-term development plan (RPJMN 2010-2014), where the development activity shall take into account the three pillars of sustainable development principles, which are the economy, society, and environmental aspects. In this context of particular importance are issues related to food security, energy and environmental and disaster risk management, which take important places in the mid term development plan.

2.4 Mitigation potential and costs

Indonesia has the potential to significantly reduce its greenhouse gas emissions. Based on initial estimates of GHG emissions over time (SNC, 2009), the GHG emission reduction target of 26% by 2020 could be equal to 0.767 GtCO₂e, and if international financing is available, an addition of 15 percent (0.477 Gton CO₂e) – reduction up to 41% - would be possible. The magnitude of the GHG emission reductions will be more accurately estimated by using better and internationally accepted methodology, data and information, bearing in mind also the specific guidance expected from the UNFCCC negotiations.

Table 2: Possible distribution and target of emission reduction

| Sector | Emission Reduction (Giga ton CO ₂ e) | | Action Plan | Institutions |
|---------------------------|---|-------|--|--------------------------|
| | 26% | +15% | | |
| Forestry and Peatland | 0,672 | 0,367 | Forest and land fire control, water and hydrology management on peatland, forest and land rehabilitation, illegal logging control, avoiding deforestation, community development | MoFr, MoPW, MoA, MoE |
| Waste | 0,048 | 0,030 | Sanitary landfill development, 3 R and sewerage system in urban areas | MoPW, MoE |
| Agriculture | 0,008 | 0,003 | Introduction of low methane rice variety, irrigation efficiency, organic fertilizer utilization | MoA, MoPW, MoE |
| Industry | 0,001 | 0,004 | Energy efficiency, renewable energy development | MoI |
| Energy and Transportation | 0,038 | 0,018 | Fuel efficiency improvement, mass transportation, demand side management, renewable energy, energy efficiency | MoT, MoEnergy, MoPW, MoF |
| | 0.767 | 0.422 | | |

Source: Result from a Ministerial Meeting at Coordinating Ministry of Economics, 29 December 2009.

The costs of mitigation actions varies between sector, thus a rating scale to measure the economic impact on greenhouse gas emissions reductions is important; according to this, the magnitude of emissions reduction could grow under different scenarios. Thus, the preparation of greenhouse gas inventory and monitoring system are required for all sectors. In order to significantly reduce the CO₂ emissions relative to a BAU scenario, it is essential to strengthen the present sectoral, institutional and human resource capacity in Indonesia.

The SNC report and many other studies (ICCSR 2010, DNPI 2009) show that the largest potential to reduce greenhouse gas emissions and possibly at lowest cost can be found in the forestry and related land use sectors since some programs needs just better land management and practices. However, in tapping such potential, various activities should be appropriately implemented to avoid being trapped in BAU scenario.

Furthermore, cross-sectoral issues should be studied exhaustively in order to guarantee the economic effectiveness of mitigation actions. This is becoming particularly relevant as climate change is a cross cutting issue and mitigation actions can only be effective if linkages across sectors are considered. Although it is important to obtain a clear understanding of cross-sectoral cost reduction, it is equally important to observe carefully the constraint on current policy implementation in each sector. A series of appropriate policies can be obtained and developed if they are based on such premises. The inter-relation and inter-dependency between sectors will be followed up in the RAN-GRK process in the future.

2.5 Proposed required policies, measures and instruments

In establishment of required policies and measures for enabling action of NAMAs in meeting the national emissions reduction target leads to a new development approach. It needs some innovation and some changes to the traditional approach. It should recognize associated impacts and opportunities posed by climate change, and establishing policies and measures that enable climate compatible development in all sectors, including regulatory as well as fiscal measures.

A wide variety of national and sectoral policies and instruments are available to governments to create the incentives for mitigation action which include regulations and standards, taxes and charges, tradable permits, voluntary agreements, informational instruments, subsidies and incentives, research and development and trade and development assistance. Their applicability depends on national and sectors frameworks, national circumstances and an understanding of their interactions in national scale and international scale that need to be confirmed. Depending on the national and sectors circumstances there are advantages and disadvantages for any given instrument. Policies that provide a real or implicit price of carbon could create incentives for producers and consumers to significantly invest in low- GHG products, technologies and processes. Such policies could include economic instruments, government funding and regulation.

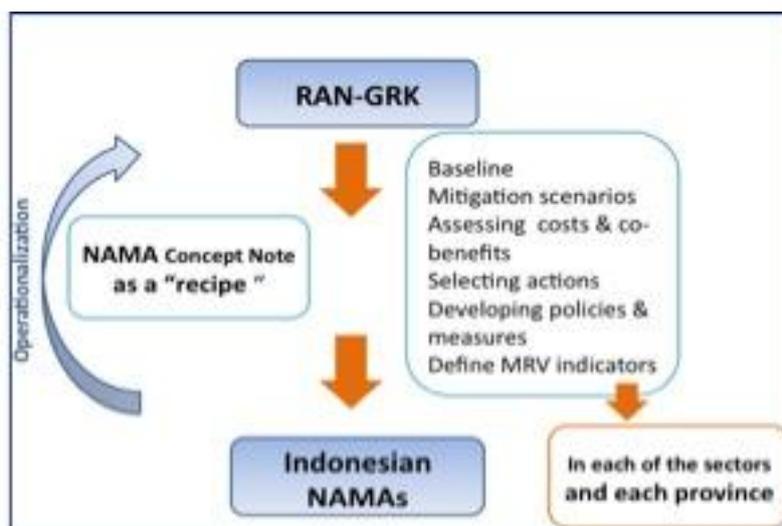
Table 3: Selected examples for mitigation policies and measures currently discussed or in place in Indonesia (NC4ND, 2011)

| Sector/government level | Type | Status |
|--------------------------------|--|-------------------|
| Industry | Tax breaks for green technology | Operational |
| Industry | Public Private Partnership: cooperative agreement between private sector industries and the government | Under development |
| Local Governments | Special Allocation Fund for Climate Change | Operational |
| Energy | Favourable pricing policy for small scale renewable energy from independent power producer | Operational |

As implemented in other countries, government support through financial contributions, tax credits, standard setting and market creation is important for effective technology development, innovation and deployment. Transfer of technology to developing countries depends on enabling conditions and financing. Reporting is also important for climate policy integration because it can improve accountability and learning. Public policies frequently result in unintended side effects, and their intended impacts may be absent or far smaller than expected. It is particularly important in the case of climate change because of the uncertainties and complexity of the systems involved.

Box 1: Local Mitigation Actions: How they fit in

The local governments can take part in GHG emission reduction in their areas through strategic planning, consensus building and coordinating roles. Local governments also can encourage the involvement of public and private companies by raising awareness of the climate change impacts and facilitating PPPs (among other options). To help reducing emissions at the local level, it is important for local government to have a local action plan of green house gas emission reduction or RAD-GRK. Each province that produces RAD-GRK may follow their RAD-GRK to set their target, emission scenario, mitigation actions and GHG inventory until 2020, in line with their local development priorities and plans, including respective capability and capacity of each regional area.



In line with the RAN-GRK review, the RAD-GRK can also be reviewed periodically to adjust it to the most recent developments. The local governments should develop their regional baseline, local mitigation scenarios, and local MRV indicators. Different regions have different characteristics, so not all sectors will contribute in the same proportion. Therefore, developing the regional baseline could focus on certain sectors which are dominant in the regions. RAD-GRK will be reported to Bappenas to be coordinated and compiled together in the form of NAMAs Registry.

To achieve the national objective reducing GHG emission, central government will give some incentives to local governments to develop the local mitigation action plans. In addition to capacity building, the incentive could be in form of additional budget, possibility to involve at the domestic carbon market, and permit to join international carbon markets.

2.6 Further development of the National Mitigation Action plan toward NAMAs

NAMAs are a voluntarily effort of developing countries to reduce their emissions within the sustainable development context, while the emissions reduction obligation of industrial countries (Annex I Countries) is called Nationally Appropriate Mitigation Actions or Commitments or NAMAC. Paragraph 1 b ii in the Decision 1/CP.13 ('Bali Action Plan') of 2007 stated that:

“Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner”

The commitment of the GoI to establish a target for the reduction of GHG emissions was reemphasized in the President's speech at COP 15 Copenhagen (December 2009). In order to realize the above commitment, the RAN-GRK has been prepared that basically serves as basis for the NAMAs by Indonesia. This RAN-GRK will be further evaluated and reviewed in accordance with the

national needs and the most recent global development, thus ensuring the international recognition and fulfilling the UNFCCC requirements. In line with this, and to associate itself with the Copenhagen Accord, Indonesia has submitted a letter concerning the position of Indonesia to the UNFCCC which includes the emissions reduction target without detailing the activity per sector (Box 2).

Box 2: Indonesia's NAMAs as submitted to UNFCCC (Jan 2010)

| |
|---|
| 1. Sustainable Peat Land Management |
| 2. Reduction in Rate of Deforestation and Land Degradation |
| 3. Development of Carbon Sequestration Projects in Forestry and Agriculture |
| 4. Promotion of Energy Efficiency |
| 5. Development of Alternative and Renewable Energy Sources |
| 6. Reduction in Solid and Liquid Waste |
| 7. Shifting to Low-Emission Transportation Mode |

The government of Indonesia regards the further development of the mitigation actions contained in the RAN GRK towards Nationally Appropriate Mitigation Actions (NAMAs) as important as still a number of technical issues need to be resolved such as establishing/calculating the baseline, revising the mitigation actions, and establishing a system for measurement, reporting and verification (MRV). It is expected that the establishment of a set of NAMAs will ease the UNFCCC compatibility and recognition of Indonesia's mitigation framework and efforts.

Still, the scientific basis of the mitigation action plan needs to be enhanced. GHG reduction needs a comprehensive basis of study that takes into account the global and national dynamic developments. In addition, it is expected that new technology research and development will open the way for various new breakthroughs in the future that could provide alternative solutions to GHG reduction implementation. Thus, Indonesia's National Mitigation Action Plan needs to be updated based on the latest developments, including technology R&D and transfer as well as on the periodic monitoring and evaluation results.

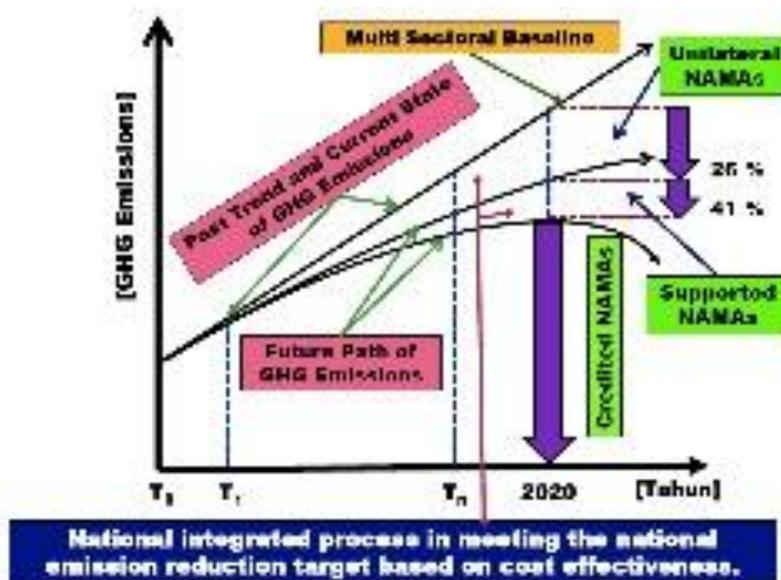
3. Measuring, reporting and verifying the potential mitigation actions

A key challenge in ensuring that Indonesia's mitigation actions can be recognized as NAMAs is in measuring, reporting and verifying the changes to CO₂ resulting from those mitigation actions.

Until now there is no international agreement in the UNFCCC concerning the exact methodology, scope, approach, as well as rules and modalities relating to NAMAs. However, based on the observed tendency in the negotiation results, in order to obtain an international recognition (via UNFCCC) that Indonesia has fulfilled its mitigation commitment, and that the RAN-GRK will meet the NAMAs standard in the future, Indonesia needs to create a National Baseline (the accumulation of aggregate baselines of each sector), mitigation scenario with abatement cost calculation, national NAMAs registry and MRV indicators.

The preparation of the national baseline in the future will be determined by using a comprehensive approach including the consideration of what factors can justify both national and sectoral targets and what MRV concept and mechanism will be employed.

Figure 1: Multi sectoral baseline



Source: Situmeang, 2011.

The establishment of the national baseline or multi sector baseline should be followed by the establishment of potential mitigation actions of each sector. These potential mitigation actions of each sector are integrated through a national selection process (merging) which is based on cost effectiveness and level of implementability (including political cost) to determine the order of priority and the amount of reduction to establish national carbon budget and national potential mitigation actions according to the national reduction target. Therefore, the calculation of abatement cost for each potential mitigation action is of paramount importance, since the magnitude of its abatement cost will determine the priority level of each mitigation action in the sectoral scope and its level of priority in the national scale. Since the timeframe of the RAN-GRK is of medium-term characteristic, the emissions reduction phase and trajectory per year and per sector until 2020 needs to be prepared so they can be monitored and evaluated periodically.

The determination of the national emissions reduction projection under BAU scenario based solely on simple extrapolation of current and past trends is not appropriate, but more a long-term simulation by using more sophisticated model and scenario building for optimization of mitigation activities taking into account uncertainties (probabilistic approach) and other key constraints. CO₂ in the atmosphere is a contribution of activities of each sector, where its behavior varies over time. For instance, in the electricity sector the composition of primary energy this year or in 2005 is different from those in 2015 or 2020, and so on. As the primary energy composition behavior is different from time to time, their CO₂ contribution will change.

The same applies even more to the transportation sector, which is far more complex and has a non-linear characteristic, for instance, in the change in mode of transportations, or in the presence of constraint on transportation infrastructure.

After establishing sectoral business as usual level as its baseline, then the potential mitigation actions of each sector can be identified, and further sectoral carbon budget could be established.

4. Financing Indonesia's NAMAs

To finance climate change programs/activities in the RAN-GRK, especially the nationally supported NAMAs (26%) for 2010-2014 shall be based on the financing mentioned in the RPJMN 2010-2014 which indicative budget already approved, while the financing for the period 2015-2020 shall be based on the estimation of cost needed for the GHG emission reduction activities.

The outlining of the 15% addition to the GHG emissions reduction target to 41% (from 26%) with international support (or Internationally Supported NAMAs) is conducted by selecting additional programs/activities whose implementation does not come from domestic resources such as the state budget/regional budget (including government loans) nor the GHG emissions reduction traded in carbon market such as CDM. For example, the letter of intent (LoI) signed between Indonesia and Norway in 2010 is aimed at providing performance based payments for reducing emissions from deforestation and forest degradation (REDD+) is clearly accounted for the supported target range of -26 till -41 % because it is paid by international sources.

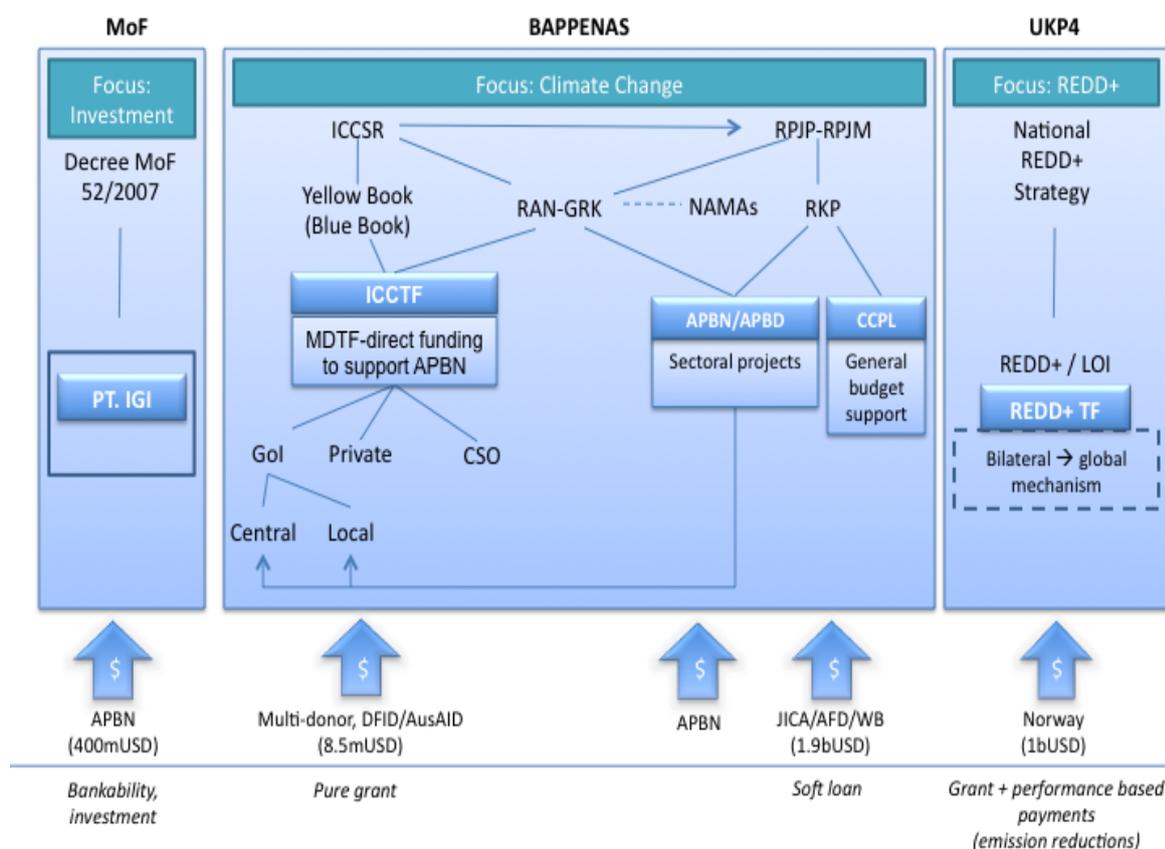
However, for a greater than 41% reduction in the GHG emissions, the implemented programs/activities shall include carbon trading mechanism scheme.

4.1 Financing sources

4.1.1 Domestic public sources

Funding source related to the state budget (unilateral NAMA – 26 % target range) may consist of Idn currency and foreign loans/grants. Based on the planning in the RPJMN 2010-2014, the projected resource envelope for 2010-2014 related to the available GHG emissions reduction is around IDR 37,889 trillion (RPJMN Book 2 Chapter I Cross-Sectoral Climate Change Mitigation Category). Based on the same commitment, during the period 2015-2020, the government needs to provide sufficient resource envelope to achieve 26% reduction.

Figure 2: Mapping of climate change financing in Indonesia



Source: Policy Coordination Forum, Bappenas, 2011

4.1.2 Private sources

In addition to government funds, funding sources from domestic private sector can be identified. A number of private sector funding that are expected to fund the GHG emissions reduction activity came from banking, non-banking, and the Corporate Social Responsibility (CSR).

Banking can be mobilized to fund private investments through profitable financial returns. They consist of general and shariah banking. Thus, a government's policy that provides an incentive for banking institutions is needed. Such a policy would support banks that provide a soft loan to industry that utilizes green technology or supports greenhouse gas emissions reduction. In this case, the coordination between the government and the Indonesian Central Bank is needed to prepare a strategic policy in banking sector.

In addition, the investment potential of private sectors can also be utilized through incentive policy to those who support mitigation efforts. Incentives can be provided for efficient energy utilization with low-carbon emissions, but not infrequently needed huge funding due to low-carbon technology requirements. Furthermore, the private sector potential utilizing the carbon market in forestry sector is started to open up by initiating REDD+ pilot projects.

CSR is a voluntary activity of a business entity to provide positive contribution to the surrounding community. Given its voluntary nature, the government can provide direction so that the CSR allocation can be focused on providing assistance in mitigating climate change impact. Until recently,

the CSR potential is expected to grow since more business entities that are interested to implement CSR in environmental sector.

4.1.3 International sources

In the UNFCCC negotiation context, since the COP 13 in Bali, the climate change mitigation efforts have included the Reducing Emission from Deforestation and Degradation (REDD) initiative which further developed into REDD+. This negotiation has opened the way for the availability of international funding support for REDD+ initiative and provided an opportunity for developing countries to take such international funding opportunity, including Indonesia. If these REDD+ activities are financed by international sources they are classified as part of the 26 – 41 % range (please see the LoI example above). From Copenhagen, there will be Green Climate Fund and reaffirm at Cancun, a fund of around US\$ 100 billion per year until 2020 are expected to be available for adaptation funds, mitigation, and technology transfer support mechanism and REDD+.

4.2 Financing Mechanism

4.2.1 Domestic public sources

Funding source from the State Budget is generally distributed through government ministry/institution, central/local governments, and State-Owned Enterprises (BUMN) with a stipulated mechanism. However, funding source from the State Budget can be redistributed to the private sectors under certain mechanism in accordance with its funding source type. Government budgets will be the main source to finance programs/activities under the group of nationally supported NAMAs (26% target)

4.2.2 International sources

The new funding mechanism through the UNFCCC has not been determined yet. Despite the fact that the Copenhagen Accord mentioned Copenhagen Green Climate Fund, there is no agreement yet regarding its form distribution mechanism, acceptance criteria and others.

4.2.3 The ICCTF: Joining sources to support mitigation actions

However, in the meantime, Indonesia already has established the nationally administered Indonesia Climate Change Trust Fund (ICCTF). The ICCTF is designed to accelerate priority investment in climate change mitigation and adaptation to support action beyond the level that the government can support solely with domestic budget resources.

In this role the ICCTF will act as a financial portal to receive and distribute funds from international Funds, development partners, and other climate change funding mechanisms (e.g., Adaptation Fund, EU Global Efficiency and Renewable Energy Fund). Secondly, the ICCTF pools and aligns resources provided either by other governments or by private sector entities to support a mutually-agreed portfolio of projects and programmes. ICCTF could be the main vehicle to fund the programs/activities of internationally supported NAMAs (up to 41% target).

Indonesia is also still open for bilateral/multilateral cooperation to support the climate change programs/activities outside above mechanisms, especially the ones which have co-benefits with other development objectives. Other kinds of cooperation are also applicable between private sectors or public private partnership (PPP). Depending on the original objective of the cooperation, e.g., CERs could be put in the group of credited NAMAs (beyond 41%); if those activities do not generate CERs, they will be put under internationally supported NAMAs (41%). Since, beyond 41% target of emission reduction are open to all kind of carbon trading mechanism, it's the task of NAMAs Registry later on to distinguish between programs/activities include in CDM, credited NAMAs, or REDD+ by using earmarking of activities into the respective NAMA types.

In addition, as follow up development of national mitigation plan (RAN-GRK) and local mitigation action plan (RAD-GRK), before Indonesia could have its own carbon market which is ready to trade internationally, Indonesia will develop domestic carbon market where carbon trading between region will be possible.

References

Draft of Presidential Regulation for National Mitigation Action Plan (RAN GRK), October 2010

NAMA overview presentation and draft concept, BAPPENAS - Situmeang, Hardiv, January 2011

Presentation during Policy Coordination Forum, Bappenas, February 2011

Indonesia Climate Change Sectoral Roadmap (ICCSR), BAPPENAS, 2010

Second National Communication of Indonesia to the UNFCCC (SNC), KLH, 2009

Indonesia Abatement Cost Curve, DNPI 2009

Government of Indonesia's submission on NAMAs/Copenhagen Accord to UNFCCC (Jan 2010)

Indonesia Mid Term Development Plan (RPJMN, 2010 – 2014), book 2 on sectoral development priorities, GoI 2010

Policy brief on policies, instruments and measures for the RAN GRK, National Center for NAMAs Development (NC4ND, 2011)

Presentation on the national target to reduce GHG emissions by GoI, Ministerial Meeting at Coordinating Ministry of Economics, 29 December 2009