Donor/Recipient in Setting Up National MRV Systems in Indonesia: Lessont Learnt and Challenges Ahead

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Outline

- NAMAs Context in Indonesia's Mitigation Framework
- Road to NAMAs and associated MRV Set-up: Four Routes
- National GHG Inventory and Related Reporting
- Stakeholders Engagement
- Lesson Learnt and Challenges Ahead

NAMAs Context in Indonesia's Mitigation Actions Framework

- Political action is yet to take shape in form of concrete policies and investment decisions that will help mitigate the impacts of climate change in integrated, long-term vision framework:
  - **Action**: effective, efficient low carbon development scenarios → National Action Plan
  - **Governance**: evaluation and monitoring through a robust MRV system and key stakeholders engagement in inclusive manner → National GHG Inventory System
  - **Market and non-Market Approaches**: finding the effective and efficient mechanisms and a robust institutional arrangement (under development)
- The need for changing strategic focus to respond to the on-going institutional dynamics in developing policies based on sound science, which leads to targeted investment in green initiatives.
- Three strategic spheres of science, policy and investment into consideration, the government/DNPI aims at looking at
  - **Science** for building appropriate scenarios in order to be better prepared for the future
  - **Policy** for creating the facilitative environment for dialogue and enabling conditions,
  - **Investment** for generating the right culture for sustained investment in green initiatives.

Route 1 – Integrated Processes into National Planning
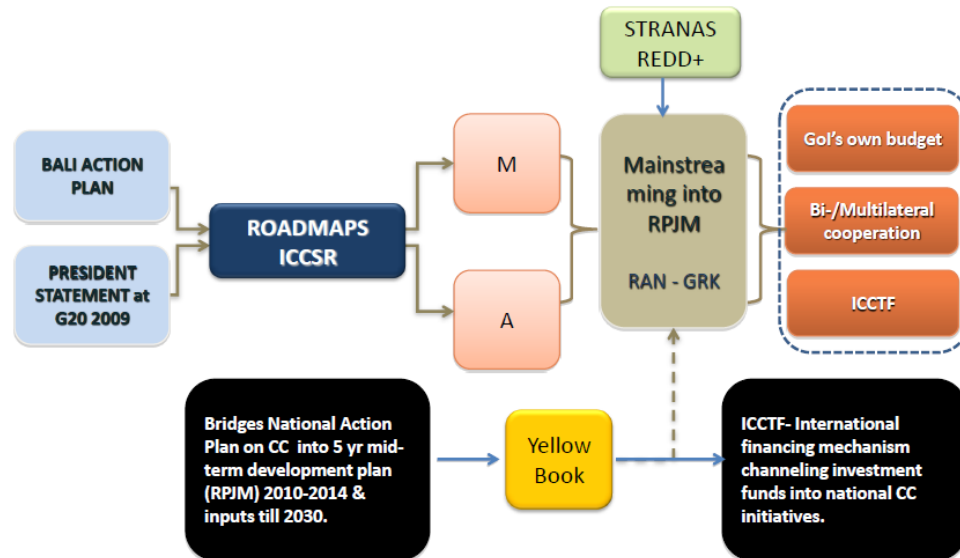
Source: Bappenas (2012)

- **Legal Basis:** Presidential Decree 61/2011 on National Action Plan on GHG Emission to achieve **26%(domestic) and 41%(international support)** emission reduction targets, covering **70 programs** classified as core and supporting activities.

- Enggagement of provincial governments through **Provincial GHG Emission Reduction Plan (RAD GRK)**. Out of 33 provincial governments, 31 provinces have established a RAD GRK

- Establishement of **Indonesia Climate Change Trust Fund** (ICCTF)

- Establishement of **Monitoring, Evaluation and Reporting (MER)** as a framework and mechanism to track and evaluate the progress and performance.

NATIONAL ACTION PLAN. Indonesian emission is expected to increase from 1.72 to 2.95 GtCO2e (2000-2020). Proposed National Action Plan on GHG Emission Reduction(RAN-GRK) consist of 70 programs distributed among various sectors **.**

Sectors	Emission Reduction Plan (Giga ton CO2e)		Agency
	26%	15% (total 41%)	
Forestry and Peat	0.672	0,367	Ministry of Forestry, Ministry of Environment, Ministry of Public Works, Ministry of Agriculture
Waste	0.048	0.030	Ministry of Public Works, Ministry of Environment
Agriculture	0.008	0.003	Ministry of Agriculture, Ministry of Environment
Industry	0.001	0.004	Ministry of Industry
Energy and Transportation	0.038	0.018	Ministry of Transportation, Ministry of Energy and Mining, Ministry of Public Works
	0.767	0.422	

Template Pelaporan Pelaksanaan Kegiatan RAN/RAD – GRK

Rencana dan Realisasi Kegiatan Aksi Mitigasi dan Penurunan Emisinya

Sektor :
Tahun :
Pelapor: Pemerintah Pusat   Kementerian :
          Pemerintah Provinsi   Provinsi :
          Pemerintah Kab/Kota   Kab/Kota :

NO	AKSI MITIGASI	LOKASI	PERIODE PELAKSANAAN		EMISI GRK BAU (ton CO2e)	TARGET SELAMA PERIODE PELAKSANAAN AKSI MITIGASI			TARGET SELAMA TAHUN PELAPORAN (.......)			REALISASI SELAMA TAHUN PELAPORAN (.......)			Penanggung jawab
			Awal	Akhir		Jum lah	Unit	Penurunan Emisi GRK (ton CO2e)	Jum lah	Unit	Penurunan Emisi GRK (ton CO2e)	Jum lah	Unit	Penurunan Emisi GRK (ton CO2e)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

. . . lanjutan

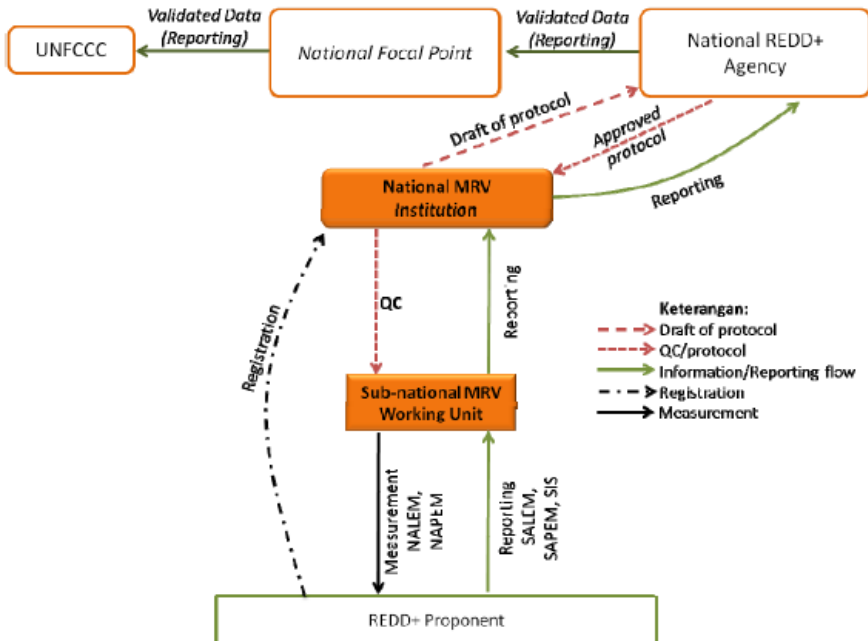### Rencana dan Realisasi Anggaran Kegiatan Aksi Mitigasi

NO	AKSI MITIGASI	PERIODE PELAKSANAAN		RENCANA ANGGARAN SELAMA PELAKSANAAN AKSI MITIGASI BERDASARKAN SUMBER DANA (x Rp 1.000)						RENCANA ANGGARAN SELAMA TAHUN PELAPORAN/......... (x Rp 1.000)					
		awal	Akhir	APBN	APBD PROV.	APBD KAB/KOTA	PHLN	Swa-sta	Jum-Lah	APBN	APBD PROV.	APBD KAB/KOTA	PHLN	Swa-sta	Jum-lah
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

REALISASI ANGGARAN SELAMA TAHUN PELAPORAN/......... (x Rp 1.000)						PENANGGUNG JAWAB
APBN	APBD PROV.	APBD KAB/KOTA	PHLN	Swa-sta	Jumlah	
17	18	19	20	21	22	23

Rekapitulasi Capaian Penurunan Emisi (per tahun)

Sektor :   Pemerintah Pusat   Kementerian :
Tahun :   Pemerintah Provinsi   Provinsi :
Pelapor :   Pemerintah Kab/Kota   Kab/Kota :

NO	Aksi Mitigasi (RAN/RAD-GRK)	Program/ Kegiatan (DIPA/DIP DA)	Tahun 2010		Tahun 2011		Tahun 2012		dst	
			Capaian Kegiatan	Penurunan Emisi	Capaian Kegiatan	Penurunan Emisi	Capaian Kegiatan	Penurunan Emisi	Capaian Kegiatan	Penurunan Emisi
1	2	3	4A	4B	5A	5B	6A	6B	7A	7B

Source: Bappenas (2013)

Route 2 – REDD+ Institutional Set-Up

Source: Strategy and Implementation Plan of REDD+ MRV, Satgas REDD+ (2012)

National Task Force on REDD+ (2011-June 2013)

- Institutional arrangement is taking shape towards a **REDD+ Agency** establishment
- **Instrument/Mechanism/pilot exercises**
  - Strategy and Implementation Plan for REDD+ MRV
  - Funding for REDD+ in Indonesia (FREDDI)
  - Provincial Strategy for REDD+
  - Moratorium for releasing new licences in primary forest and peatland areas
  - "One Map" initiatives dealing with spatial database integration
  - Tested areas in implementing REDD+ and MRV at Provincial Level
- **MRV Components**: measurment and monitoring: (1). Deforestation (2). wall to wall GHG emission (3). sub-national net emission (4).safeguard, co-benefit and drivers of forest and peatland

UNFCCC Processes

- Under development by Ministry of Forestry

Route 2 – REDD+ Institutional Set-Up (cont'd)
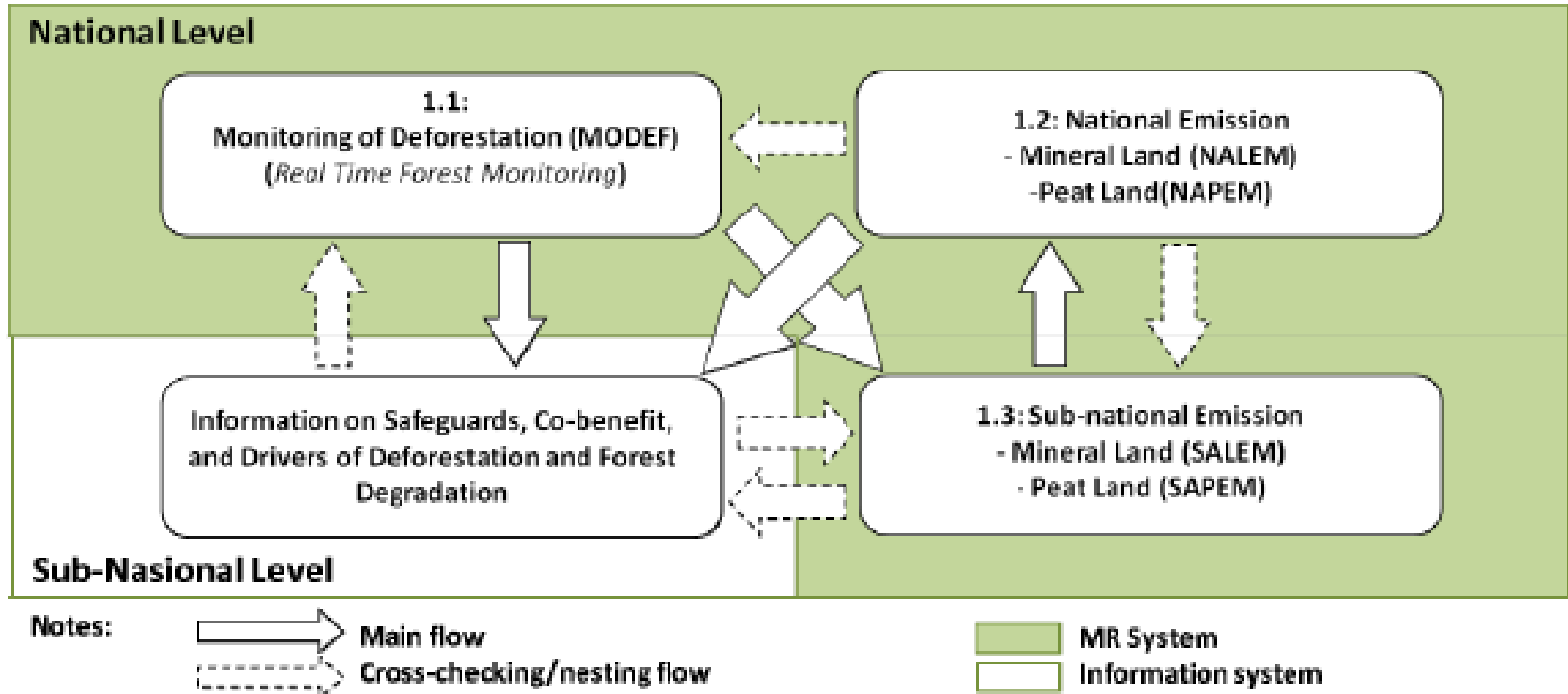
Source: Strategy and Implementation Plan of REDD+ MRV, Satgas REDD+ (2012)

# Route 2 – REDD+ Institutional Set-Up (cont'd)

Table II - 1. Scope of MRV system

Component	Sub-component	Scope and frequency	Input element	Process	Output	Accuracy level
1.1. Measurement and Monitoring of Deforestation		All over Indonesia, quarterly	Low resolution satellite image, , groundtruthing, public input	Automatic classification, iteration for editing	Forest cover map in GIS format	Low
1.2. Wall-to-wall measurement and monitoring of GHG net emission all over Indonesia		All over Indonesia, bi-annually	Medium resolution satellite image, sample plot, carbon classes for each land cover and specific land use on Indonesia's ecosystem, including peat	Automatic classification, groundtruthing, plot inventory, allometric modeling, up scaling based on stock-difference, estimation of uncertainty	Land cover and land use and their changes maps, database of carbon classes, carbon density map, emission estimation and its accuracy level.	Medium
1.3. Measurement and monitoring of net emission at sub-national implementation area level		Sub-national, annually	High resolution sattelite image, permanent plot	Automatic classification, systematic groundtruthing, periodic measurement of permanent plot, and activity that influence gain and loss	Land cover and land use and their changes maps, carbon density map, stock difference and gain-loss to estimate the emission and accuracy level	High
1.4. Safeguards, Co-benefit, and Drivers of Deforestation and Forest and peatland Degradation	a. Biodiversity	Sub-national, bi-annually	Historical data on population level of flagship species, maps of land cover and land cover changes.	Biodiversity survey, spatial analysis to estimate habitat size and quality	Changes in population of key species, changes in habitat size and quality, fragmentation and connectivity of protected area.	High
	b. Other environmental services	Sub-national, bi-annually	Identification of relevant environmental services at the implementation area and its influencing factors.	Rapid Appraisal Method for Environmental Services, such as RHA (Rapid Hydrological Appraisal) for water	Changes of relevant indicator in reflecting environmental services. Example: flow persistence of watershed that shows buffer function of watershed.	Medium
	c. Economy and people's livelihood	Sub-national, bi-annually	Economic indicator data, past HDI and baseline data on 5 capitals (Physical, Financial, Human, Social, Natural)	Collection of secondary data at district and provincial levels and primary data collection at household and village levels.	Changes in qualitative and quantitative indicators from time to time	Medium - High

Source: Strategy and Implementation Plan of REDD+ MRV, Satgas REDD+ (2012)

Donor/Recipients in Setting-up MRV Systems

Route 3 – NAMAs through UNFCCC Registry (as of July 2013)



NAMA Registry Focal Point
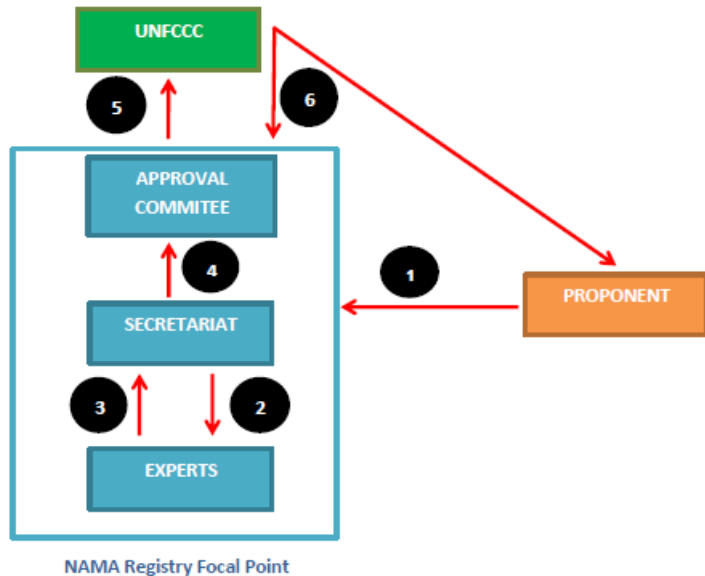
Source: DNPI (2013)

Defining NAMAs

- Consistent with UNFCCC definition , mechanisms and 1st Indonesia submission on potential mitigation areas
- In-line with national policies (Mid-term National Development Plan (RPJM), National GHG Emission Reduction, and related policies)
- Transformational (efectivity, impacts, scalling-up potentials, financing)
- Co-benefits
- Inclusive, tranparent and broader enggagement (GO, NGOs at national and sub-national levels)

Mechanisms

- ① Proponent to submit NAMA to the NAMA Registry Focal Point
- ② Secretariat will examine NAMA submit or conduct administration screening and then pass the NAMA to the Experts
- ③ Experts to provide analysis and forward it to the Secretariat to further approval process
- ④ Approval Committee to carefully examine NAMAs submission
- ⑤ NAMA submitted submitted tp UNFCCC
- ⑥ Feedback from UNFCCC may be delivered through NAMA Registry Focal Point or directly to the Proponent.

Route 4 – Other Potentials
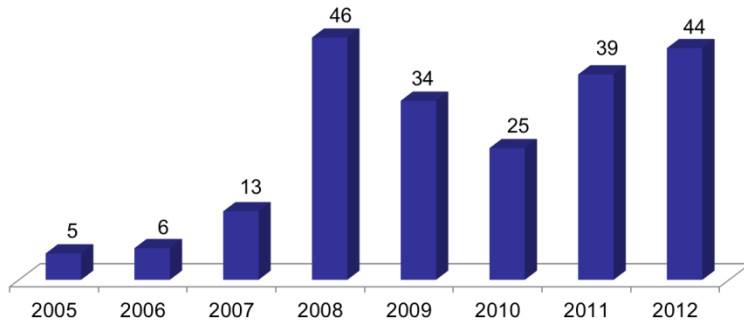

CDM approval through DNA (2005 – now)
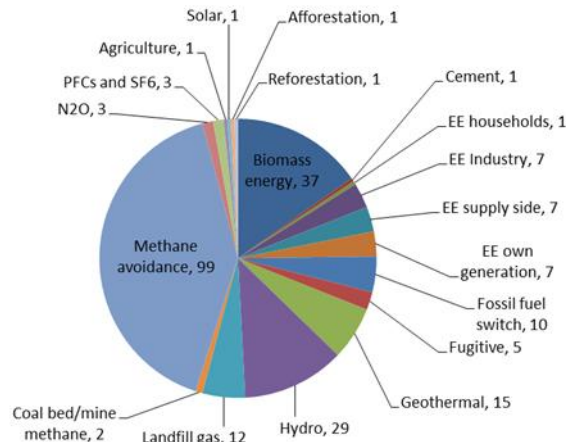
CDM Indonesia registerd in di UNFCCC based on type
Source: DNPI (2013)

- **Clean Development Mechanism (CDM):**
  - 212 projects recieved LoA
  - 140 projects registered in UNFCCC, 27 project recieved CER
  - 3 proposals under consideration (2013)
- **Feasibility Study for Bilateral Offset Credit Mechanism funded by Japan Government:**
  - 2010-2012: 32 projects
  - 2012-2013: 25 projects
- **Voluntary Carbon Market (VCM)**
  - **11** *Verified Carbon Standard* (VCS) projects, 6 project s produced 2.2 millions tones VER
- **Partnership for Market Readiness (PMR)**
  - Strategy for market based mitigation actions including pilot activities
  - Pilot project s: mitigasi berbasis pasar untuk:
    - ➢ MRV Systems Design for Electricity Instalations in Java-Madura-Bali (300 units)
    - ➢ MRV System for cement industries
- **Nusantara Carbon Scheme Mechanisms (SKN),** voluntary certified emission reduction**,**(under development).

National GHG Inventory System and related Activities
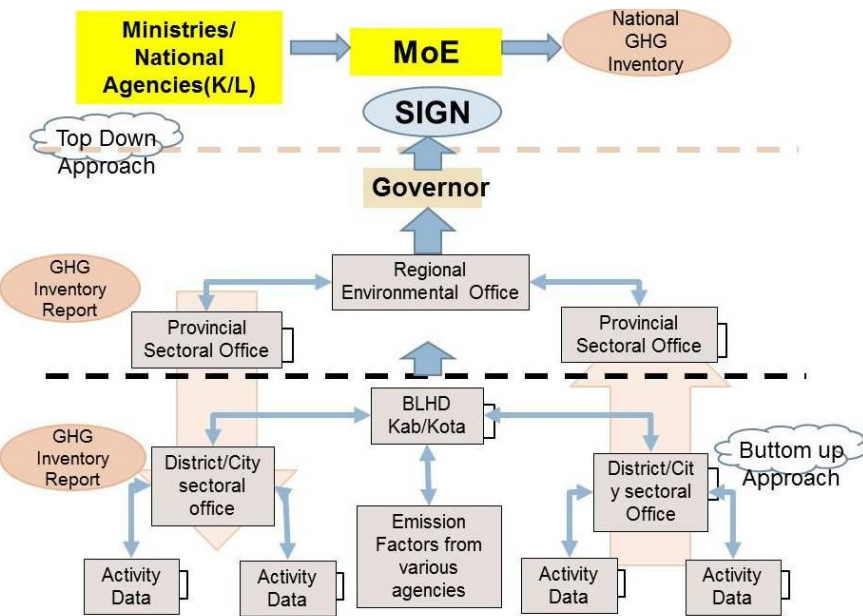
Source: Ministry of Environment (2013)

- **Legal Basis**: Presidential decree 71/2011 on National GHG Inventory System(SIGN)
- **Top-down/bottom-up** approaches by linking line ministries and sub-national governments through **SIGN Center** organized by **Ministry of Environment**
- As an integral part of other reporting mechanism, such as National Communications, and BUR.
- Proposed to be a modality for MRV Agency

Other related activites:

- Indonesia Carbon Accounting System (INCAS, Ausaid) - Land/Use Cover Maps(1990-2011)
- One Map initiative - One Reference, One Standard, One Database, One License
- MRV under proposed Bilateral Offset Mechanism (BCOM, Japan-Indonesia) – 57 Feasibility Studies Peatland and Peatland Mapping under Indonesia Climate Change Center, www.iccc-network.net, Indonesia-US)
- MRV under CDM Programs

Stakeholders Engagement (as of July 2013)

- **Series of Policy and Technical Dialogue:** MRV, low carbon economy, policy and modelling, expert briefings on mitigation related issues, geo-spatial technology, 100 villages mapping initiative; green investment, innovation and productivity;
- **Indonesia Carbon Update Network (ICU-Net, www.indonesiacarbonupdate.net)** low carbon economy, green Innovation, policy and assessment, geospatial technology, knowledge Warehouse, open source initiative, MRV and ICU-net portal(www.indonesiacarbonupdate.net)
- **Sapporo Initiatives:** strategic integrative research in the framework of low carbon economy; integration of science and capacity building efforts in economy-wide climate change mitigation research; geo-spatial technology; a new approach on mobilizing and deploying financial/technical resources (GO, private)
- **Asia Forum on Carbon Update (AFCU-Net, www.afcunetwork.net):** networking and collaborative efforts on low carbon economy, technology and capacity building for scientific communities in the Asian region.
- **Green Investment, Innovation and Productivity**, www.greeninvestmentindonesia.net
- **University Network on Climate Change:** 19 universities, Trans Kalimantan University (more than 100 universities)
- **Inisiatif Pemetaan 100 Desa (100 Villages Mapping Initiatives)**
- **International Partnership on Mitigation and MRV**, www.mitigationpartnership.net
- **South East Asia Network on Climate Change Focal Points(SEAN-CC, www.sean-cc.org), UNEP.**
- **Indonesia Climate Change Center (ICCC) (US-Indonesia Comprehensive Partnership), www.iccc-network.net**
- **East Asia Carbon Partnership on Low Carbon Society**
- Open Platform for Climate Change Policy Tracking and Evaluation (DNPI and WRI)

Lesson Learnt and Challenges Ahead
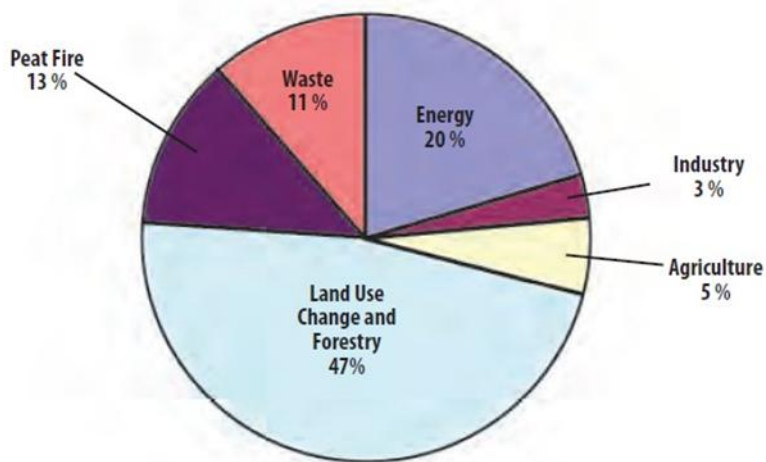
- Diverse actors with different policy target. (National, Sub-National, Program/project-based)
- Diverse actions characterized by actions (land based, energy, etc.) and enabling condition (mapping, spatial planning)
- Diverse MRV systems in terms of scope, level of governance, techniques as well as donor interests
- Diverse initiatives to develop Registry system with various level of implementation

- **Sistematic Knowledge Management** of "lesson learnt" & "Proof of Concept" in potential sectors
- **Integrated MRV Framework and institutional leadership** to translate global agreement into national and sub-national policies: national(2013-2014), international (2015, 2015-2020, > 2020)
- Broadening **stakeholders engagement**

Future Avenue of MRV setting is also depended on the future of long-term NAMAs arrangement : Two Options

❶

Non Climate Change Act/legislation through existing instruments and mechanisms:

- Existing intruments and mechanisms coul be modalities BUT not enough to respond to long-term uncertainty and commitment.

Source: DNPI (2013)

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Climate Change Act/legislation:

- Give long-term signal on policy direction, commitment as well as public and private engagement.

- Investment certatinty to drive a green economy.

- Long-term national security.

- Create new opportunity for highest added value and new employment such as green jobs, green industry, green consumerism, etc.

THANK YOU