FACILITATIVE SHARING OF VIEWS INDONESIA

15 MAY 2017

OUTLINE

Part 1

- Summary of BUR and recent development:
  National context, GHG Inventory, Mitigation actions and Effect, Barriers and support needed and received

Part 2

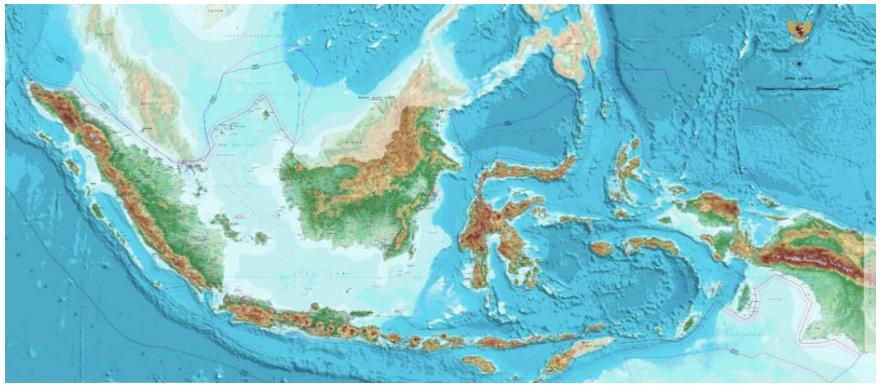
- Experience and lesson learnt in participating of the ICA Process:
  Has participation in the ICA process raised the profile of climate actions at the domestic level? Has the BUR preparation enhanced domestic coordination/ domestic MRV in providing climate related information? If so, how? What's the value addition of the technical analysis of BURs by the team of technical experts?

Part 3

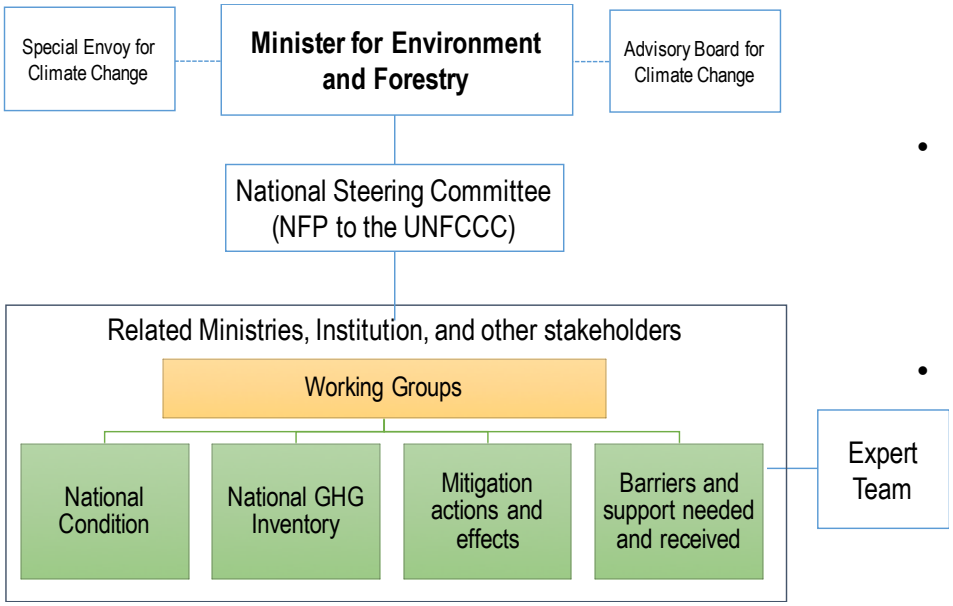
- Response to questions received

Part I: Summary of BUR and recent development

National context (1)



Institutional arrangements



- **Geographic**
  - 6º08' North and 11º15' South latitude, 94º45' to 141º05' East longitude.
  - between the Pacific and the Indian Oceans.
  - bridges two continents: Asia and Australia.
- **Covers approx. 790 million hectares:**
  - a total coastline length of about 95,181 km and land territory of about 200 million ha.
  - Approx. 13,466 islands → inhabited island: the main islands of Sumatera, Java, Kalimantan, Sulawesi and Papua.
- **Population:**
  - continuously increasing from 119.21 million i(1971) to 238.52 million (2010).
  - annual growth rate appears to be decreasing, from 1.98% (1980-1990) to 1.49% (2000-2010).
  - Projection: the population will exceed 300 million by 2030.
  - The distribution of the population follows the distribution of the country's economic activity that is concentrated in the western part of Indonesia (i.e. Java and Sumatera).

NATIONAL CONTEXT (2)

SECTOR	CONDITION	SECTOR	CONDITION
Energy	• 2000-2012: total final energy demand grew 2.7% per year, from 709 million to 1050 million BO,E • High consumption growth/year: transport (6.9%), commercial (4.6%), industrial (1.8%) and residential (0.9%). • 2000-2012: growth/year of primary energy supply of 3.4%, from 996 million to 1,566 million BOE • Growth/year in coal supply (11.5%), oil (2.8%), natural gas (3.9%r)	Agriculture	• Rate of plantation area: 571,000 ha/year • Rice harvested area and production at a rate of 1% and 2% per year (2000-2012) • Livestock growth/year: swine 4%, cattle 3% • Allocation off 15 million ha for cropland by 2030 . In 2012, total area of paddy was approximately 13.4 million ha
Industry	• 40% - 46% to the GDP. • Important sub-sector: mining and manufacturing (78% of industrial sector GDP • large manufacture industry: pulp and paper, cement, iron/steel and ammonia/urea	Water	• total water demand for irrigation, domestic, municipal and industrial: 1,074 m3/sec, • Flow rate during a normal climatic year: 790 m3/sec
Forestry	• Supports the livelihood of 48.8 million people (60% is directly dependent on wood and non-wood forest products) • Total forestland: 128.4 million ha (inland water, marine and coastal ecosystems and the rest is non-forestland (2013). • 128.4 million ha: conservation forest (17%), protection forest (23.7%), limited production forest (21.7%), production forest (23.5%) and convertible production forest (13.9%). • The main drivers of deforestation and degradation varied among islands.	Marine and coastal	• Coral reefs damaged level (40%): considered damaged and medium damaged (24%), very good condition (6%). • Mangrove forest: 3.7 million ha) → by 2005: the remaining mangrove forest was only 1.5 million ha

NATIONAL GHG INVENTORY 2012

Summary of 2000 and 2012 GHG Emission in (Gg Co2-e)

Sector		Year		Percentage	
		2000	2012	2000	2012
1	Energy	298.412	508.120	29,8	34,9
2	IPPU	40.761	41.015	4,1	2,8
3	Agriculture	96.305	112.727	9,6	7,8
4	LULUCF (including peat fire)	505.369	694.978	50,5	47,8
5	Wate	60.575	97.117	6,0	6,7
Total without LULUCF & including peat fire		496.053	758.979	100	100
Total with LULUCF & including peat fire		1.001.422	1.453.957		

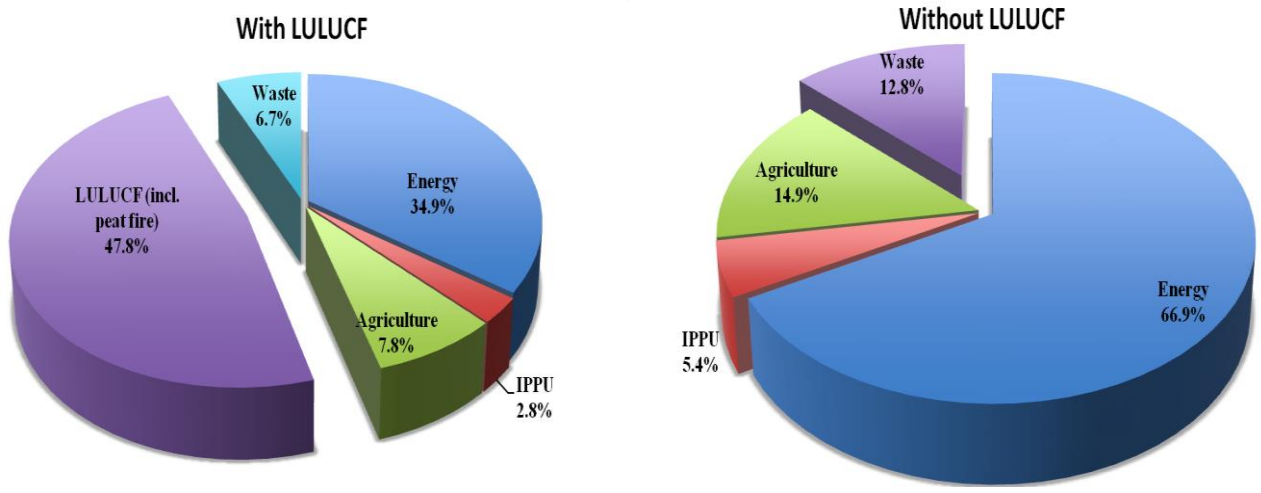
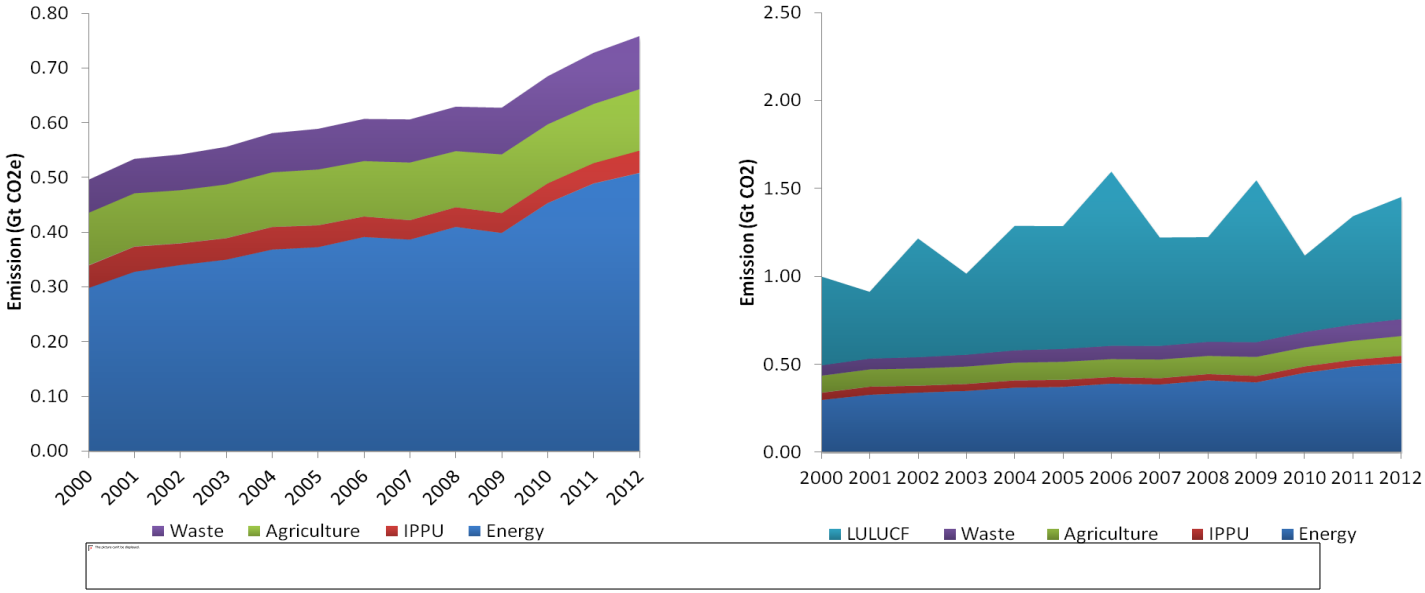


Figure 1. Sectoral emission contribution to National Emission in 2012

- **With LUCF**: LUCF and Peat Fire (47,8%). Energy (34,9%), Agriculture (7,8%), Waste (6,7%) and IPPU (2,8%).
- **Without LUCF,** Energy (66,9%), , Agriculture (14,9%), Waste (12,8%) dan IPPU (5,4%).

EMISSION TREND 2000-2012



- The GHG emissions from energy, agriculture and waste, increased at the annual rates of 4.6%, 1.3% and 4.0% respectively, while those from industrial sector was relatively less than 1%.
- Without LUCF, the annual emissions over the period of 2000-2012 increased consistently with a rate of about 3.6% per year.
- With LUCF, the annual emissions fluctuated considerably due to high inter-annual variability of emissions from LUCF sector.

MITIGATION ACTIONS AND EFFECTS

NATIONAL ACTION PLAN ON GHG EMISSION REDUCTION

SECTOR	26%	15%	MINISTRIES
Forestry and Peatland	0,672	0,367	Ministry of Environment and Forestry
Energy and transport	0,038	0,018	Ministry of Energy and MR, Ministry of Transportation, Ministry of Industry
Agriculture	0,008	0,003	Ministry of Agriculture, Ministry of Public Works
Waste	0,048	0,030	Ministry of Public Works
Industry	0,001	0,004	Ministry of Industry
Total	0,767	0,422	

Source: Presidential Regulation No. 61/2011

CDM

Project approved by DNA	242
Registered at UNFCCC	146
Under validation process	16
Issued CERs	13.5 million

NAMAs

REGISTERED NAMAs	ESTIMATED GHG EMISSION REDUCTION
Sustainable Urban Transport in Indonesia	0.7-1.5 MtCO2-e
Smart Street Lighting Initiative	0.425 MtCO2-e

RESULT ACHIEVED

Table 3-5. The Effect of Implementation of Mitigation Activities on CO_2 Emission Reduction

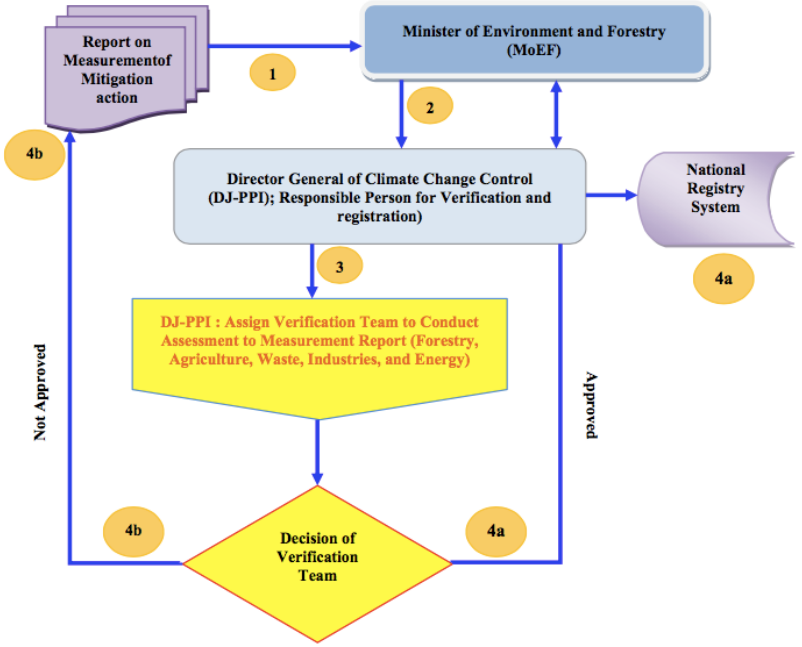
	Sector	No of Implemented Activities	No of Activities with reported emission	Emission Reduction target/potential by 2020 (Mt CO_2-e)	Emission Reduction Cumulative 2010-2012 (Mt CO_2-e)	Emission Reduction Average per year (Mt CO_2-e)
Perpres	Energy*	9	8	32.53	3.39	1.13
	Transportation	17	7	35.15	0.27	0.09
	Industry	2	2	4.81	0.79	0.26
	Agriculture**	4	4	43.59	35.49	11.83
	LUCF	11	0	605.90	n.a	n.a
	Waste	2	2	48.00	n.a	n.a
Sub-total Perpres		45	23	769.98	41.29	13.76
NAMA	Energy	2	0	4.12	n.a	n.a
	Transportation	1	0	1.50	n.a	n.a
	Waste	1	0	0.35	n.a	n.a
Sub-total NAMA		4	0	5.97	n.a	n.a
Non Perpres	Energy	6	6	0.15	0.84	0.28
	Transportation	5	5	9.97	4.25	1.42
	Forestry	10	0	n.a	n.a	n.a
	Others	2	0	n.a	n.a	n.a
Sub-Total Non-Perpres		23	11	10.11	5.09	1.70
TOTAL		72	34	786.06	45.03	

Note: Emission reduction achievement up to 2013 has been reported to reach 4.74 MtCO2e or 1.185 MtCO2 per year

Perpres= Presidential Regulation, related to Presidential Regulation No. 61/2011

DOMESTIC MRV

Legal basis	Presidential Regulation No. 61/2011 on NAP GHG Emission Reduction Presidential Regulation No. 71/2011 on National GHG Inventory Ministerial of MOE Regulation No. 15/2013 on MRV
Coverage	National and sub-national actions
Scope	Baseline, activity data, emission reduction calculation include methodology and EF, monitoring system, management of mitigation action, source of fund
Pilot MRV	Action: Mandatory to implement energy management in large energy consumers
	Energy efficiency at 4 companies reduced energy consumption of 459.6 GWh/year ~0.374 MtCO2-e



MRV Process

OBSTACLES AND BARRIERS

BARRIERS

- Capacity to prepare for GHG Inventory
- Capacity to measure and monitor of mitigation actions
- Analysis of support received

CHALLENGES

- To maintain continuity of the preparation process of BUR
- To maintain continuity of preparation of GHG Inventory and implement mitigation actions
- To implement MRV

SUPPORT RECEIVED AND NEEDED

Table 4-1.Number of Supported NAMAs Proposed by Ministries and Local Government

No	Agencies	No. of Activities	Total Investment	Required supports
1	Ministry of Energy and Mineral Resources	3	560.3	203.2
		1	NC	NC
2	Ministry of Environment and Forestry	1	198.0	NC
3	Local Government (Bogor-West Java)	1	40.0	NC
4	Ministry of Agriculture	5	20.2	NC
5	Ministry of Industry	1	2.4	2.4
6	Ministry of Public Works and Housing	1	11.7	7.3
		1	NC	NC
7	Ministry of Transportation	1	467.1	16.3
TOTAL		15	1299.7	229.2

Note: NC = Not communicated

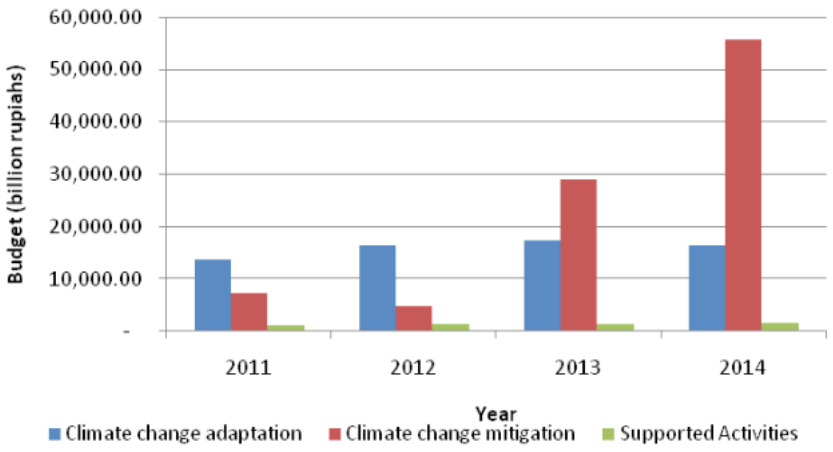


Figure 4.1. Budget Realization related to Climate Change in 2011-2014 (BAPPENAS, 2014a)

Table 4-2. Number of Capacity Building Activities and Support Needs for their Implementation

Types of capacity building	No. of Activities	Total funding (million USD)	Support required (Million USD)
Development of mitigation strategies including supporting regulations	4	18.25	18.25
Application of mitigation technologies	1	2.54	NC
	4	NC	NC
Development and implementing MRV system	2	4.25	4.25
	2	NC	NC
Total	13	25.04	22.50

Note: NC = Not communicated

Table 4-3. Number of Activity for GHG emissions Reduction and Budget Realization for RAD-GRK

Sector	2010		2011		2012		TOTAL	
				Core Activities				
	Number of Activity	Budget (Billion Rupiahs)	Number of Activity	Budget (Billion Rupiahs)	Number of Activity	Budget (Billion Rupiahs)	Number of Activity	Budget (Billion Rupiahs)
Forestry	150	123	143	150	163	2,701	456	2,974
Agriculture	55	33	101	76	142	43	298	151
Energy	59	70	72	104	78	143	209	317
Transportation	37	62	32	60	37	240	106	362
Waste Management	37	128	209	216	276	589	522	934
TOTAL	338	417	557	606	696	3,716	1,591	4,738
				Supporting Activities				
All Sectors	236	80	314	4	249	118	899	4,205

Source: BAPPENAS (2014a)

Table 4-4. Budget Contribution for Emission Reduction and Indicative Cost (Ministry of Finance, 2012)

Sources of emission reduction	Emission reduction (tCO_2) in 2020	Indicative cost (billion IDR/year)		
		Public	Private	Total
Maintain RAN GRK expenditures on the year 2012' level	116	16	0	16
Additional expenditure for RAN GRK according to GDP	31	4	0	4
Improvement of budget's effectiveness from the existing expenditures	78	1-2	0	1-2
Emissions from power plant s 26% lower, including geothermal	104	15-45	15-45	40-70
Policy to limit deforestation up to 450,000 ha/year	260	1-2	20-30	21-32
Emission reduction needed from new initiative	121	6	11	17
RAN GRK target for forest, peat land, energy and transportation	710	45-75	45-85	100-140
Emission reduction from agriculture, industry, and waste	57	Is not included yet in the report		
RAN GRK's total target	767			

Source: Ministry of Finance (2012)

Part II: Experience and lessons learned in participating in the ICA process

PREPARING FOR THE ICA PROCESS

Has participation in the ICA process raised the profile of climate actions at the domestic level?

- The ICA process provide feedback for preparation of BUR. Its comment on inventory could increase awareness on the use IPCC GL 2006 and enhance understanding on measuring of GHG emission reduction. Some constraints exist and need further capacity building

Has the BUR preparation enhanced domestic coordination/domestic MRV in providing climate related information? If so, how?

- The BUR preparation has developed reporting system at national level by dedicated units in the Ministries and National Working Groups coordinated by MOEF. These groups also involved in discussion for the ICA process

ENHANCING TRANSPARENCY OF REPORTING AND AREAS FOR IMPROVEMENT

What's the value addition of the technical analysis of BURs by the team of technical experts?	Technical analysis recommendation could be used as feed-back to Improve of accuracy of calculation of GHG Inventory. Indonesia continues to develop capacities among stakeholder to ensure that the GHG estimation and reporting the next BUR will be consistent with the 2006 guidelines. The most important step would be to improve statistical data collection to be fit in with the data need for the 2006 guidelines
	TTE has identified areas that need improvement such as estimation emission from international aviation and marine bunker, reporting of the indirect GHG and SOx, disaggregation emission from ACM, gas coverage of mitigation action
	ICA process has identified areas that need for capacity building such as data collection for SF6, emission estimation for bunker fuel, MRV, mitigation action, track support received,

Part III: Response to questions received

RESPONSE TO QUESTIONS RECEIVED (1)

IPCC GL 2006

(USA, NZ, SWITZERLAND)

- It has been used since SNC, with the goal to increase accuracy of national GHG inventory
- covers some sources which are not included in the revised 1996 IPCC GL.
- More friendly and easy-to-use as it is not require different/new data activity
- contains more up-dated EF and parametric that improve confidence in the quality of estimates
- more sources and sinks as they have been identified since 1996. Guidance on land use sectors has been made more complete and consistent across all land uses.

INVENTORY(NZ, EU)

- Summary table: it has been revised following the findings of ICA process
- Agriculture:CH4 emission is key emission category, from enteric fermentation and manure management. Main challenge: to develop EF factor that represents diverse condition on livestock management
- Institutionalisation: institutional arrangement under Presidential Regulation No. 71/2011
- LULUCF emission and removal: the variation of estimation of GHG inventory was due to the differences in activity data and emission factors, methodology and assumptions used in the analysis.

RESPONSE TO QUESTIONS RECEIVED (2)

MITIGATION

(EU, SWITZERLAND)

- Institutional arrangement: abased on Presidential Regulation No. 61/2011, coordinated by Planning Agency and MOEF
- Effect of mitigation actions forestry:

  BUR reported 45 mitigation actions with potential emission reduction for 0.04129 GtCO-e in year 2010-2012
- Effect of mitigation actions:

  baseline and projection refer to the SNC. The target of GHG emission reduction is based on national GHG inventory, sectoral development and resources available

BUR GUIDELINES (NZ, EU)

- The Guidelines are helpful, but relatively general
- Preparation of BUR also referred to the National Communication Guidelines