INDONESIA CLIMATE CHANGE ACTIVITIES 2010
Indonesia National Council on Climate Change - NCCC
President Regulation # 46 /2008

ORGANIZATION

Chairman: President of Indonesia
Vice Chairmen: Coord. Minister of Economics; Coord. Minister of Social Welfare

Members:

Heads of: Development Planning/BAPPENAS, Research and Technology Assessment, Meteorology and Geophysics Agency, State Secretary, Cabinet Secretary.

MANDATES

1. National policies, strategy, program and activities on climate change
2. Sector coordination for CC-related activities
3. Carbon trade mechanisms and procedures
4. Monitoring and evaluation
5. International focal point
Chairmen and members of the Task Force comprise of relevant stakeholders, including government officials, NGOs, private sector, academician, professionals.
INDONESIA: OUR VULNERABILITIES

Sea level rise & land inundation threatens coastal zones
- North coast Java, south Kalimantan, west Sumatra

Water
- Changed water balance leading to droughts and floods – regionally differentiated

Agriculture
- Food security threatened, and declining productivity in particular rice cultivation

Health
- Spread of diseases correlated to effects of climate change
  (malaria, dengue, cholera, diarrhea etc)
INDONESIA: CURRENT EMISSIONS*

LULUCF + Peat burning: 866,254 +/- Stable

Energy: 333,540 Gg
Industry: 34,197 Gg
Agriculture: 75,419 Gg
Waste: 151,578 Gg

TOTAL: 1,415,988 Gg

*)Note: these emission numbers for 2004 still under calculation by SNC team
HOW IS CLIMATE CHANGE MAINSTREAMED WITHIN THE NATIONAL PRIORITY AND ACTION PLAN 2010-2014?
MAINSTREAMING CLIMATE CHANGE INTO NATIONAL DEVELOPMENT AGENDA:

- BALI ACTION PLAN
- PRES STATEMENT: G20 2009

ROADMAPS (ICCSR)

M
A

Mainstreaming into RPJM RAN - GRK

GoI’s own budget
Bi-/Multilateral cooperation
ICCTF

Bridges National Action Plan on CC into 5 yr midterm development plan (RPJM) 2010-2014 & inputs till 2030.

ICCTF- International financing mechanism channeling investment funds into national CC initiatives.

Yellow Book
NATIONAL PRIORITY & ACTION PLAN 2010-2014

1. Bureaucracy Reform and Good Governance
2. Education
3. Health
4. Poverty Alleviation
5. Food Security
6. Infrastructure
7. Investment Climate
8. Energy
9. Environment and Disaster Management (incl. Climate Change)
10. Disadvantaged, Borders and Post-Conflict Areas
11. Culture, Creativity and Technology Innovation

11 National Priorities - Indonesian Cabinet 2010-2014
**FOOD SECURITY**
- Land, Area Development & Agriculture Spatial Plan
- Infrastructure
- Research and Development
- Investment, Finance and Subsidy
- Food and Nutrition
- Adaptation to Climate Change

**ENERGY**
- Policy
- Restructuring of State Enterprises
- Energy Capacity
- Alternative Energy
- Oil and Gas Derivative Production
- Gas Conversion

**ENVIRONMENTAL AND DISASTER MANAGEMENT**
- Climate Change
- Environmental Degradation Control
- Early Warning System
- Capacity Building on Disaster Mitigation & Forest Fire
WHAT IS THE INDONESIAN CLIMATE CHANGE SECTORAL ROADMAP (ICCSR)?
The Climate Change Sectoral Roadmap will support the GOI’s development vision related to climate change for the next 20 years.

The implementation of the Roadmap will be through National Development Plan; the next Development is for period 2010 – 2014.

There are nine priority sectors:

**Mitigation Sectors**: Energy, Forestry, Industry, Transportation, Waste Management

**Adaptation Sectors**: Agriculture, Marine and Fishery, Water Resources, Health
COORDINATION & IMPLEMENTATION OF SECTORAL CLIMATE CHANGE ROADMAP

Phase I:
- a. Awareness & Capacity Building
- b. Policy Reorientation
- c. Roadmap development

Phase II:
- d. Program Formulation
- e. Process of Integrating into Dev. Planning

Phase III:
- f. Implementation (Annual Gov. Work Plan)
- g. Monitoring & Evaluation

Line Ministries/Gov. Institutions

BAPPENAS

CONSULTANTS
Objectives

Mainstreaming climate change into development planning

Priority Sectors
1. Agriculture
2. Coastal, ocean and fishery
3. Energy
4. Forestry

Secondary Sectors
1. Health
2. Transportation
3. Infrastructure
4. Water
5. Industry

Cross Cutting Issues
1. Research and Technology
2. National security
3. Biodiversity
4. Poverty
WHAT IS THE NATIONAL ACTION PLAN (RAN-GRK)?
Scenario of 26% GHG Emission Reduction

President Commitment
G-20 Pittsburgh and COP15
To reduce GHG Emission in 2020

- 26% Unilateral
- 26% Unilateral
- 15% International Support
- 41% Unilateral and International Support

RAN-GRK
Scenario of 26% GHG Emission Reduction

RAN-GRK
Compiled based on proposals of actions from Implementing Agencies
Quick start: screened based on existing actions that have co-benefits in reducing GHG emissions

Criteria:
- Potentially measured, reported and verified (MRV), clear and concise contracts, clear executing agencies, higher abatement cost, not included in CDM project

Criteria:
- Potentially measured, reported and verified (MRV), lower abatement cost, in Medium Term Development Plan, national priorities, economically feasible, not included in CDM project

+15%
26%
Scenario of 26% GHG Emission Reduction

GHG Emission in Indonesia is estimated to increase from 1.72 to 2.95 GtCO₂e from 2000 to 2020
Scenario of 26% GHG Emission Reduction

[Graph showing emission rate (Gt CO2) from 2005 to 2020 for BAU and Skenario 26% scenarios.]
## Policy Framework of RAN-GRK

### 1. What is the Action Plan?

1. an integral part of National Development Plan and updated according to scientific and policy development
2. integrated actions among sectors – environmental carrying capacity and spatial plan
3. intended to contribute to global efforts to reduce emissions and to tap international funding for Indonesia

### 2. The Action Plan is focused on:

1. GHG Emission Reduction
2. Increase of GHG Absorbtion Capacity (carbon sequestration)

### 3. The Action Plan - principles:

1. should not hinder economic growth, and prioritizing people’s welfare esp. in areas of energy resilience and food security
2. supports protection of the poor and vulnerable communities, including environment conservation in the framework of sustainable development
3. consists of core activities to reduce the emission and supporting activities to strengthen the policy framework
WHAT IS THE INDONESIAN CLIMATE CHANGE TRUST FUND?
ICCTF AND ROADMAP IN UNFCCC CONTEXT

- CC Roadmap
- NAMA/NAPA
- ICCTF
  - FINANCIAL MECHANISM (decentralized)
- MRV

[UNFCCC logo]
THE ICCTF

GOAL
The goal of the ICCTF is to support the GOI’s efforts to reduce emissions, move towards a low-carbon economy and adapt to the impacts of climate change.

PURPOSE
The purpose of the ICCTF is to attract, manage and mobilise funding to contribute efficiently and effectively to 1) the mainstreaming of climate change issues in national, provincial and local development planning and 2) the implementation of mitigation and adaptation climate change initiatives.

OUTCOME 1- ENERGY
The ICCTF aims to contribute to the improvement of energy security and reduction of emissions from the energy sector in Indonesia.

OUTCOME 2 – FORESTRY & PEATLAND
The ICCTF aims to contribute to address deforestation & forest degradation issues & to advance sustainable management of peat-lands and forest resources.

OUTCOME 3- RESILIENCE
The ICCTF aims to contribute to responding to the adverse impacts of and risks posed by climate change that are already occurring, while also preparing for future impacts through cross cutting and inter-sectoral measures.
Output of DNPI on 2010

- Climate change adaptation
- Climate change mitigation
The Vulnerability Map on Health
(The Results of DNPI’s studies on Adaptation)
The Vulnerability Map on Food Security
(The Results of DNPI’S Studies on Adaptation)
ADAPTATION SCIENCE AND POLICY STUDY
Outline

• Background
• Initial Finding (AR4)
• Gap Analysis (ICCSR)
• Concluding Remarks
Background
OBJECTIVES

To assist the Government of Indonesia to develop adaptation basic information in support of the formulation of national strategy and mid-and-long term plans to prepare the country to adapt to negative impacts of climate change.
REPORT OF THE STUDY

1. Part I: General
   Introduction

2. Part II: Scientific Basis
   Status & Capacity of Available Adaptation Science

3. Part III: Impacts by Sector
   Review on Studies of Climate Change Impacts

4. Part IV: Policy & Strategy of Adaptation by Sectors and Aspects
   Key Information on Existing Adaptation Plans, Policies, & Strategies;
   Policy & Strategy Gaps on Adaptation;
   Needs & Availability of Technology for Adaptation Measures;
   Needs & Flows of Financing for Adaptation Measures

5. Part V: Concluding Remarks
## PRIMARY DOCUMENTS

<table>
<thead>
<tr>
<th>Documents</th>
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</table>
## Gap Analysis (ICCCSR)

### Gap Analysis --> Findings Assessment

**Title of Report:** ICCSR Bappenas-GTZ, 2010

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<th>Analysis Variable</th>
<th>Indicator</th>
<th>Chapter/Page, Figure/Table</th>
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<td>4.1 Sea surface temperature trend</td>
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<td>2.2.2 Tidal Forcing</td>
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<td>Ocean Current</td>
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<td>2.2.1 Ocean currents and sea level</td>
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<td>Water transport</td>
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<td>Biogeochemistry</td>
<td>Page 11-12, 47-50</td>
<td>5.3 SST and Chlor-a</td>
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<td><strong>1.2. Analysis and Modelling</strong></td>
<td>Global sea level rise</td>
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<td>Impacts of climate change on the ocean current characteristics</td>
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<tr>
<td>Steps in road map</td>
<td>Elements</td>
<td>Ideal state</td>
<td>What has been done in road map</td>
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</table>
| 1. Methodology   | 1.1 Data and Information | • The tide gauge and altimeter are available for the Indonesian Seas.  
• The sea surface temperature (SST) data with the data period more than 30 years.  
• Long-term wave data  
• Salinity data | • Sea Level Rise (SLR) analysis using 12 tide gauge station data, with the altimeter data covers the entire Indonesian Seas with the data span from 1992 to 2008  
• Monthly SST data derived from NOAA OI with the spatial resolution of 1° x 1° from 1983 to 2008.  
• Altimeter-derived Significant Wave Height (SWH) from 2006 to 2008  
• The salinity data is not available except for the climatology data from World Ocean Atlas (WOA) |
|                  | 1.1.2 Analysis & Modeling | • Trend analysis and spatially trend analysis to detect the sea level and SST rises.  
• Time spectral analysis using wavelet analysis to detect the time and frequency of ENSO  
• Wave and OGCM (oceanic general circulation model) | • SLR and SST rise maps both using the IPCC model's and historical data.  
• Timetable of ENSO occurrence projection based on the IPCC-derived model output.  
• Extreme Wave impacts on the marine transportation sector and the coastal region.  
• Wave model using WAVEWATCH-III and the OGCM using HYCOM (HYbrid Coordinate Ocean Model) |
|                  | 1.1.3 FGD | • More frequent involving BMKG, Menristek, Lapan etc. | • 2 times FGD |
| 2. Results       | 2.1 Science basis (TWH and IS) | • SLR Projection  
• SST rise projection  
• Analysis of extreme events  
• Long-term wave model output at least for more than 10 years.  
• The impact of climate change on the other ocean parameters, such as surface current, mixing layer depths, water transport and salinity characteristics. | • SLR and SST rise are well analyzed by using both the historical and IPCC-derived model output.  
• Timetable of ENSO projection |
Problems

• Limited of observation data both of ocean and climate data
  • Limited of coverage area and time-span

• High spatial resolution of atmospheric and oceanic models

Time span? *from 1960 or 1980?*Observational for assimilation and model validation??
Output of DNPI on 2010

- Climate change adaptation
- Climate change mitigation
DNPI created the details of low carbon growth strategy in 3 provinces

**Low Carbon Growth Strategy**

**Indonesia**

**Kalteng**

**Jambi**

**Kaltim**

**Main Elements of LCGS**

**Sustainable Economic Growth Strategy**
- Competitive excess and deficiency
- New growth source

**Sectoral strategies**
- The opportunity of the required reduction, pilot project and policy
- Palm oil, forestry, agriculture, coals, oil and gas

**Regional strategies**
- Large area and land use
- Emission and the reduction opportunity
- GDP and labor

**Implementation and enabler**
- Detailed action plan
- Required important enabler
- Estimation of total costs

*Source: DNPI; Government of Central Kalimantan, Government of East Kalimantan, Government of Jambi*
East Kalimantan has the potency to reduce emission in the amount of 60% while the GDP growth increasing from 3% to 5%

The more efficient land use can reduce the emission significantly

While towards the advanced production with value added can increase the GDP growth

<table>
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<th>CO² Reduction Initiatives</th>
<th>Reduction</th>
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<tr>
<td>1) Zero burning</td>
<td>47 MtCO2e</td>
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<td>2) Reducing the impacting logging</td>
<td>34 MtCO2e</td>
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<td>3) Damaged land using</td>
<td>24 MtCO2e</td>
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<td>4) Water and peat land management</td>
<td>18 MtCO2e</td>
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<td>5) Reforestation</td>
<td>12 MtCO2e</td>
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<th>GDP Initiatives</th>
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<td>1) CBM development and using</td>
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<td>2) Developing the downstream forest products</td>
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<td>3) Increasing the productivity of timber plantation</td>
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<td>4) Accelerating the oil and gas production</td>
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<tr>
<td>5) Increasing the agriculture productivity</td>
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</table>

SOURCE: East Kalimantan– Environmentally Sustainable Development Strategy
DNPI has identified the emission sources as well as the emission reduction methods per regency for 3 provinces

### Distribusi penurunan CO2e potensial per kabupaten
Sumber-sumber pengurangan, MtCO2e tahun 2030

<table>
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<tr>
<th>Kelapa Sawit</th>
<th>Pertanian</th>
<th>Kehutanan</th>
<th>Minyak dan gas</th>
<th>Stop pertambangan</th>
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1. Pembalakan dengan dampak yang telah dikuasangi
2. Mencakup penggunaan lahan kritis (13.9 MtCO2e) dan skema pembayaran REDD (9.8 MtCO2e)

SUMBER: Analisis tim