Towards (Draft) on Blue Carbon Policy 2014/2015

Concept status on 06 July 2012

Agency for Marine & Fisheries Research & Development
Ministry of Marine Affairs & Fisheries
The Republic of Indonesia

National Council on Climate Change
The Republic of Indonesia

Outline

- National Action Plan on the GHG’s emission reduction
- Activities to Support the National Action Plan on the GHG’s emission reduction
- Campaign

Outline

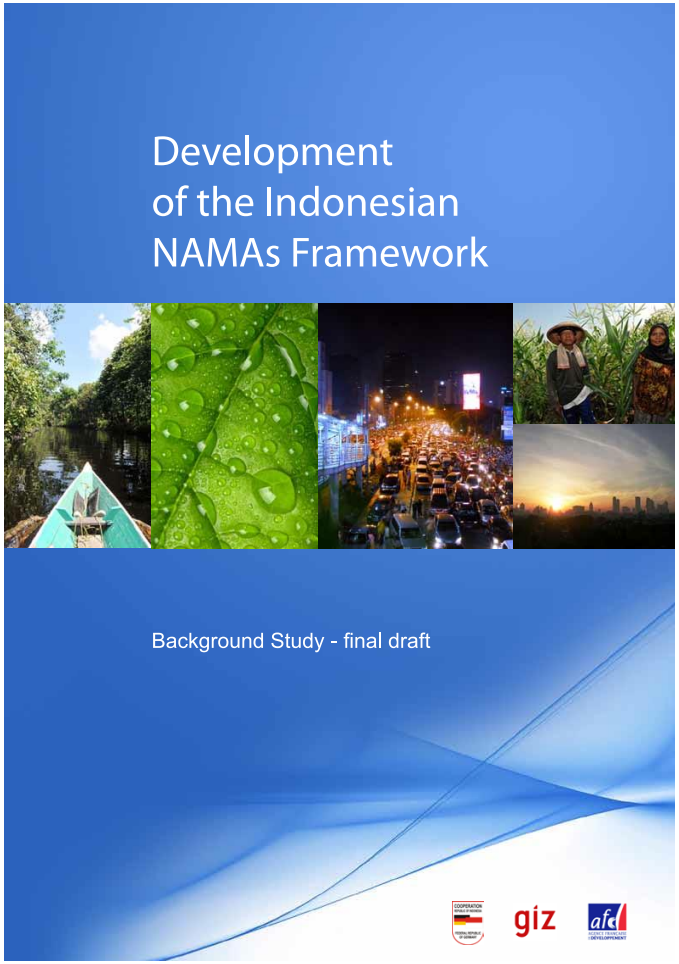
- **National Action Plan on the GHG's emission reduction**
- Research Activities to Supporting the National Action Plan on the GHG's emission reduction
- Campaign

Background and Rationale

26-41% of Emission Reduction?

"We are devising an energy mix policy including LULUCF that will reduce our emissions by 26 percent by 2020 from BAU scenario. With international support, we are confident that we can reduce emissions by as much as 41 percent"

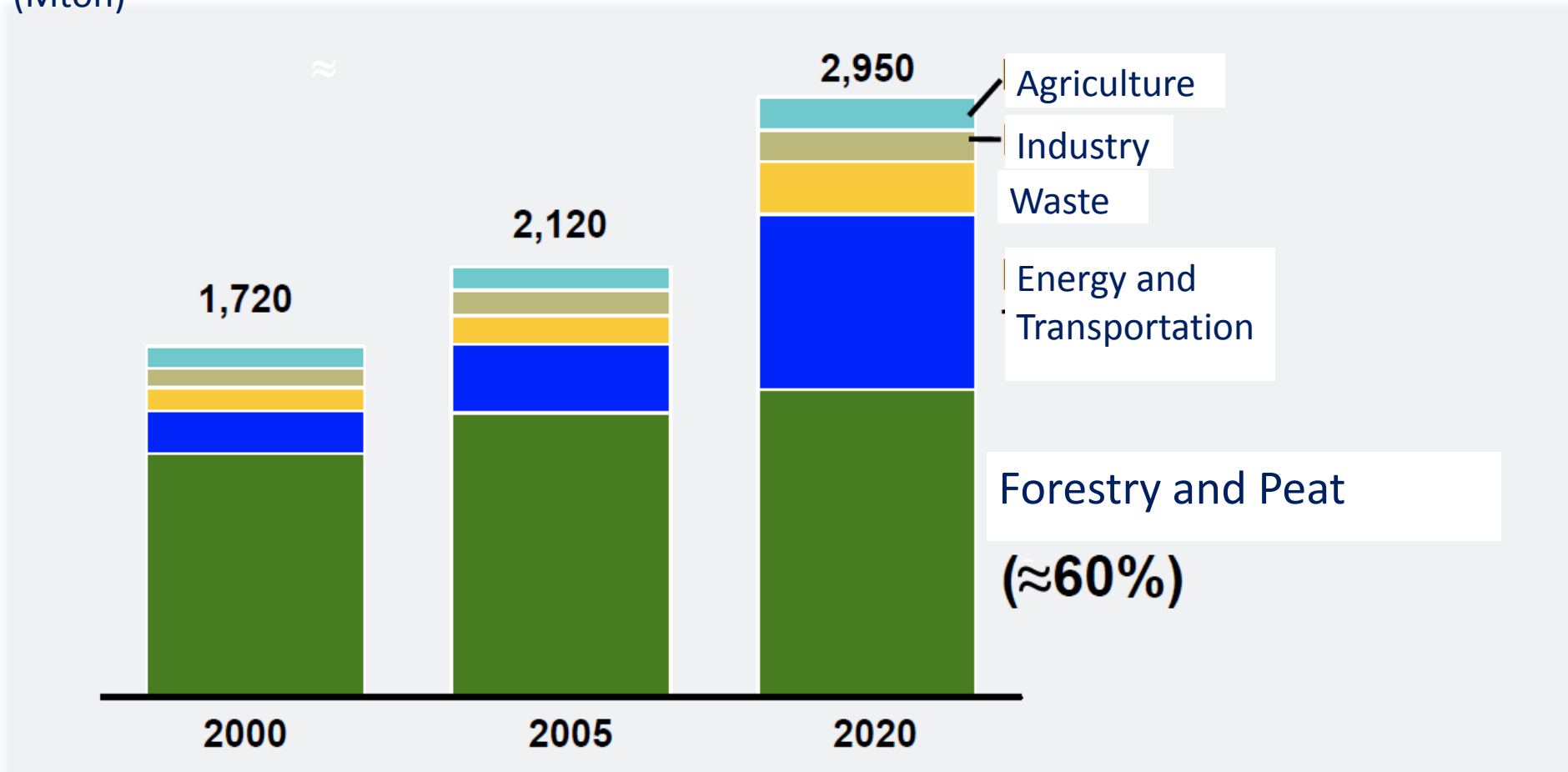
- Indonesia's President commitment
at the Pittsburgh G-20 Leaders Summit



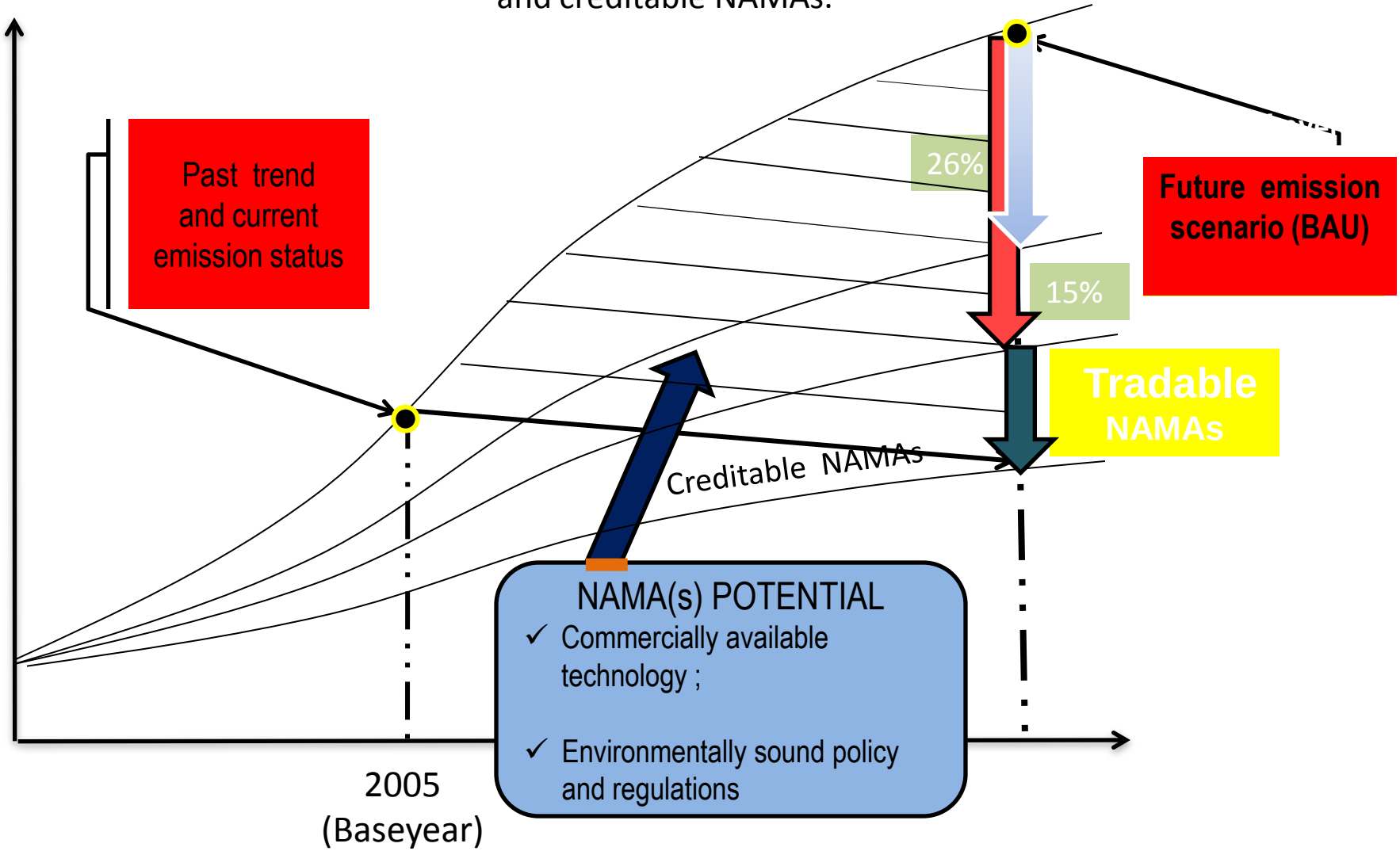
Indonesia' GHG Emission Scenario 2020

Emission projection (BAU)

CO2 emission
(Mton)



Determination of emission target reduction will be dependent upon a credible BAU scenario. Indonesia is in the process of determining activities for unilateral, international seeking supports and creditable NAMAs.

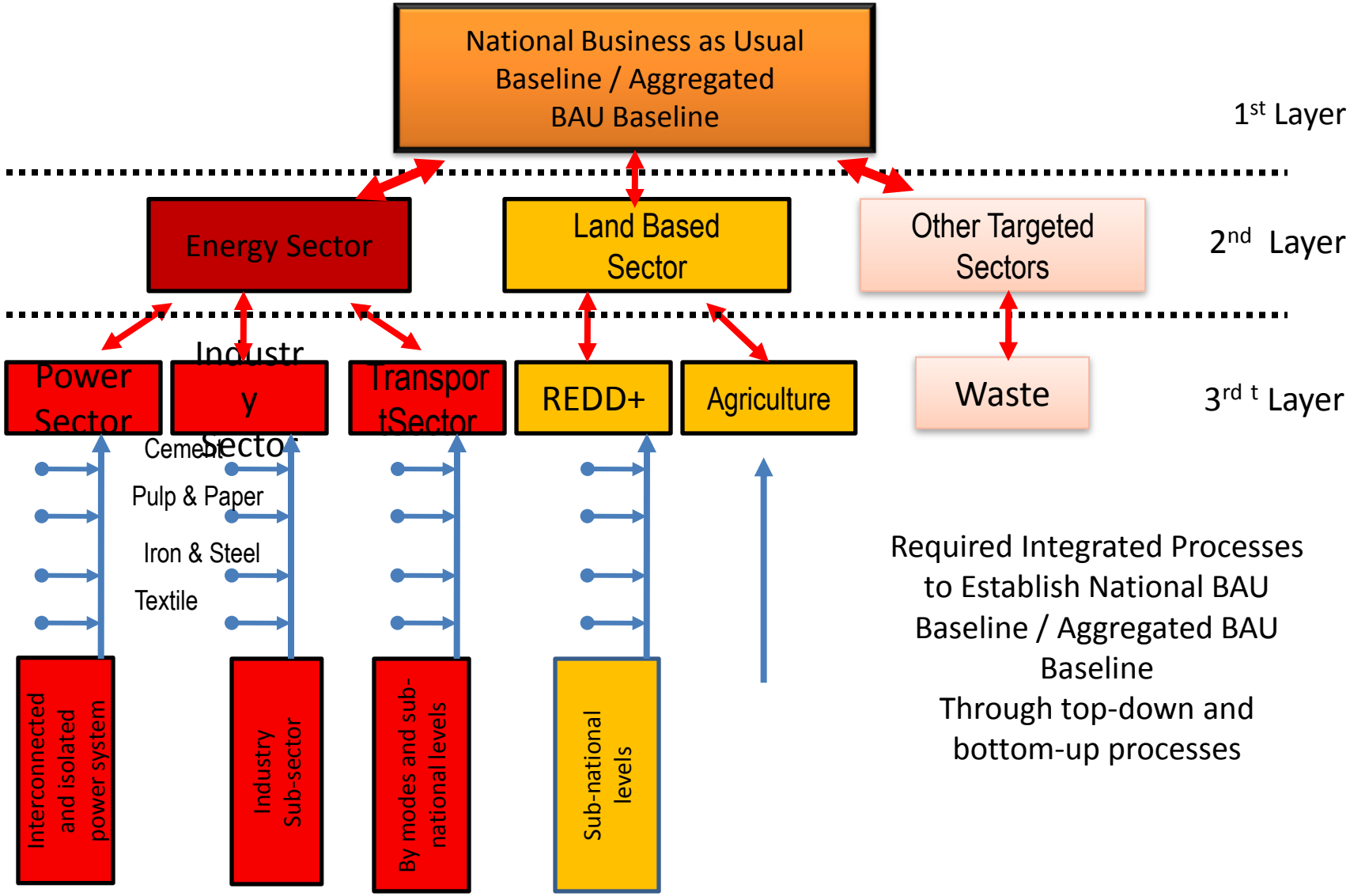


Possible distribution and target of emission reduction

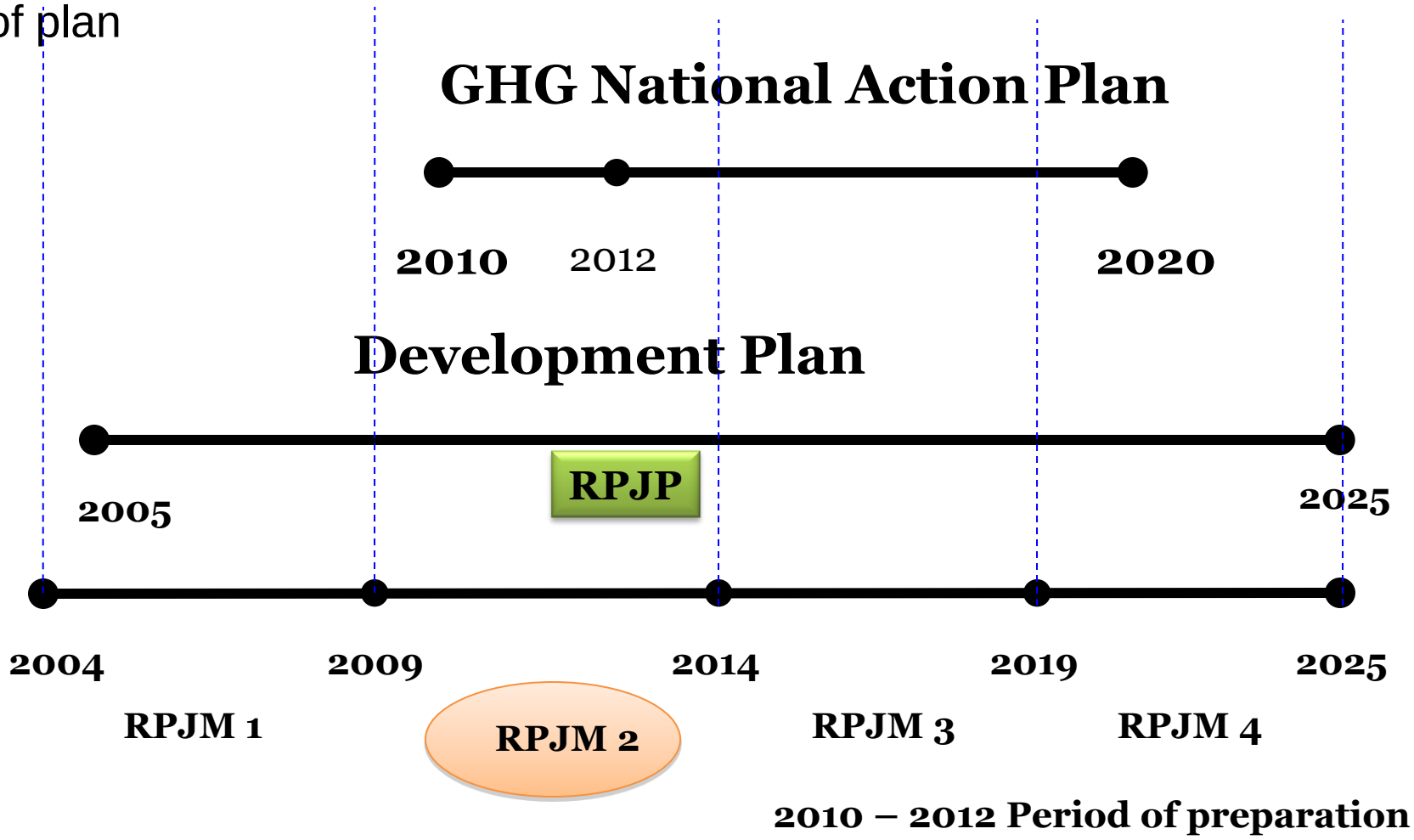
Sector	Emission Reduction (Giga ton CO2e)		Action Plan	Institutions
	26%	+15%		
Forestry and Peatland	0,672	0.367	Forest and land fire control, water and hydrology management on peatland, forest and land rehabilitation, illegal logging control, avoiding deforestation, community development	MoFr, MoPW, 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 biggest challange is the need to establish integrated national baseline as a basis for deriving national emission reduction



Time frame of NAMAs is included in the long-term and mid-term national and sub-national development plan covering three periods of plan



RPJP = The long-term national development plan
RPJM = Mid-term national development plan

Translating the National Emission Reduction Policy into Provincial Alocation Mitigation Efforts

Sectoral

- Land-based: Agriculture, forestry and land use
- Non Land-based: Energy (Industry, transportation, electricity)
- Waste

Provincial

- Develop local mitigation action plans (The RAD-GRK) incl. the targets

Outline

- National Action Plan on the GHG’s emission reduction
- **Activities to Support the National Action Plan on the GHG’s emission reduction**
- Campaign

There 4 of R & D Programme of AMFRD listed in the Annex II of Presidential Regulation (PERPRES No. 61 / 2011 signed 20 September 2011) as Supporting Programme

No.	Action Plan/Prog.	Volume	Period	Location
1	Research on Marine carbon in Indonesian Seas	5 packages	2010 - 2014	Indonesian Coastal & Coral Triangle Iniative region
2	Study Marine Hazard response to Climate Change in SEA region	2 packages	2010 - 2014	South China Sea & Karimata Strait
3	Implementation of the Indonesia Global Ocean Observing System (INAGOOS)	2 packages	2010 - 2014	Jakarta, Bali, & Indonesian Seas
4	Implementation of the Indo-China Ocean and Climate Research Centre	3 packages	2010 - 2014	Sunda Straits, Indian Ocean, & Karimata Strait

The Inter-sectoral of the (Blue)Carbon Activities

listed in the Annex I & II of Presidential Regulation (PERPRES No. 61 / 2011 signed 20 September 2011)

No.	Action Plan/Prog.	Volume	Period	Location
1	The development of Nationally Appropriate Mitigation Actions (NAMAs) by **BAPPENAS**	1 Concept	2010 - 2014	National
2	The development of REDD+ by **UKP4; KEMENKO EKUIN; BAPPENAS; KEHUTANAN**	1 package	2010 - 2011	National
3	Management of MPAs by **Ministry of Marine Affairs & Fisheries**	9 Million Ha	2010 - 2020	15 regions & 45 Regencies
4	Rehabilitation of MPAs by **Ministry of Marine Affairs & Fisheries**	9 Million Ha	2010 - 2020	23 regions

REDD Plus in Indonesia:

REDD Plus di Indonesia:

"Lesson Learned"

National Council on Climate Change (NCCC)

Pelaksanaan REDD+ secara bertahap (phases approach)

Phase 1 (2007-2008)

Preparation

- *Indonesia Forest Climate Alliance* (IFCA) melaksanakan '*quick studies*' untuk mengetahui status kesiapan Indonesia melaksanakan RED(D) (baik dari aspek metodologi maupun institusi/organisasi, peraturan-perundangan, kapasitas SDM).

Tahap 2 (2009-2012)

Kesiapan (Readiness)

- Developing REDD National Strategic Plan
- Establishing Institutions for REDD Plus
- Establishing MRV Institutions and capacity building for REDD Plus;
- Funding Mechanism for REDD Plus.

Phase 3 (starting in 2013)

Implementation

- Compensation payment
- Continue Monitoring and Registry

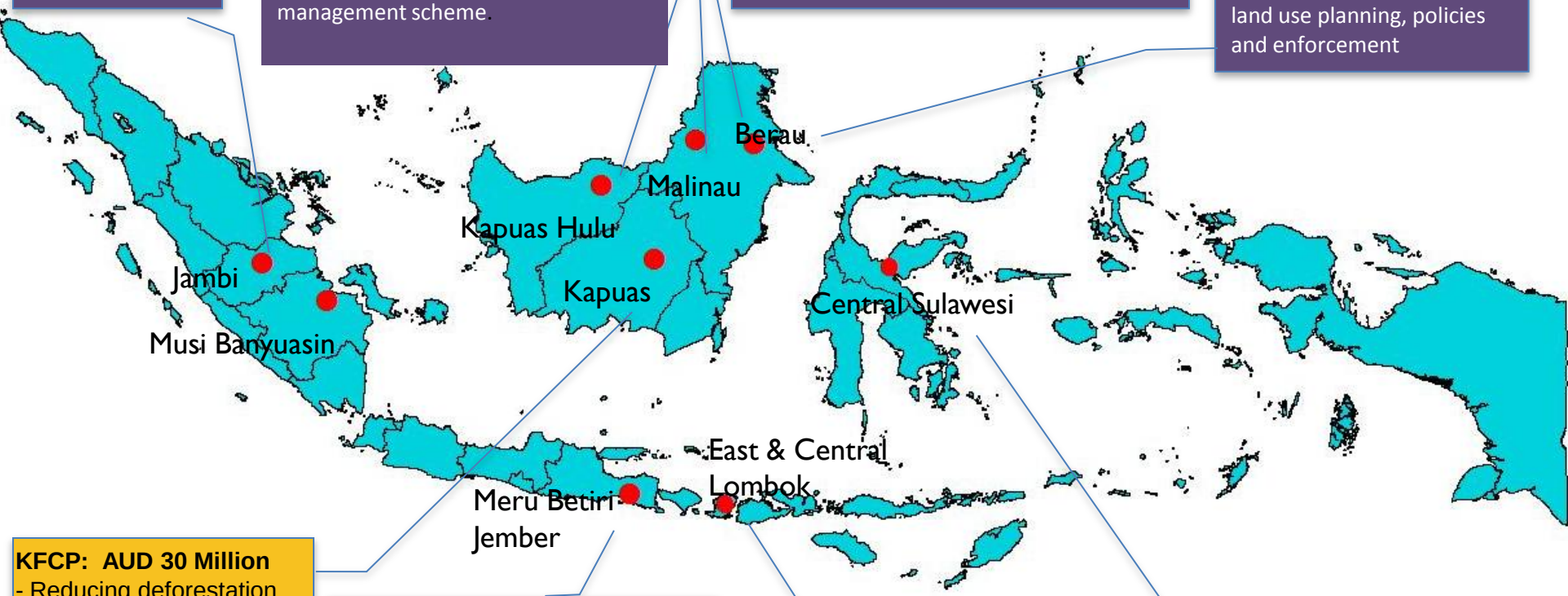
Kegiatan Percontohan REDD
(*Demonstration Activities -DA*)

Proposed AusAID
2nd Demonstration Activity

GTZ Merang: (€ 1,445,255; 2008-11).
Incl:
- Measures to restore forest areas
- Strategies and structures for peat forest management Integrated fire management scheme.

FORCLIME: (**€7 Millions; 2010-12)**
Innovative designs for REDD demonstration activities incl. establishment of FMUs,

TNC: Demonstration activities: improved forest management, forest restoration, oil palm swap, land use planning, policies and enforcement



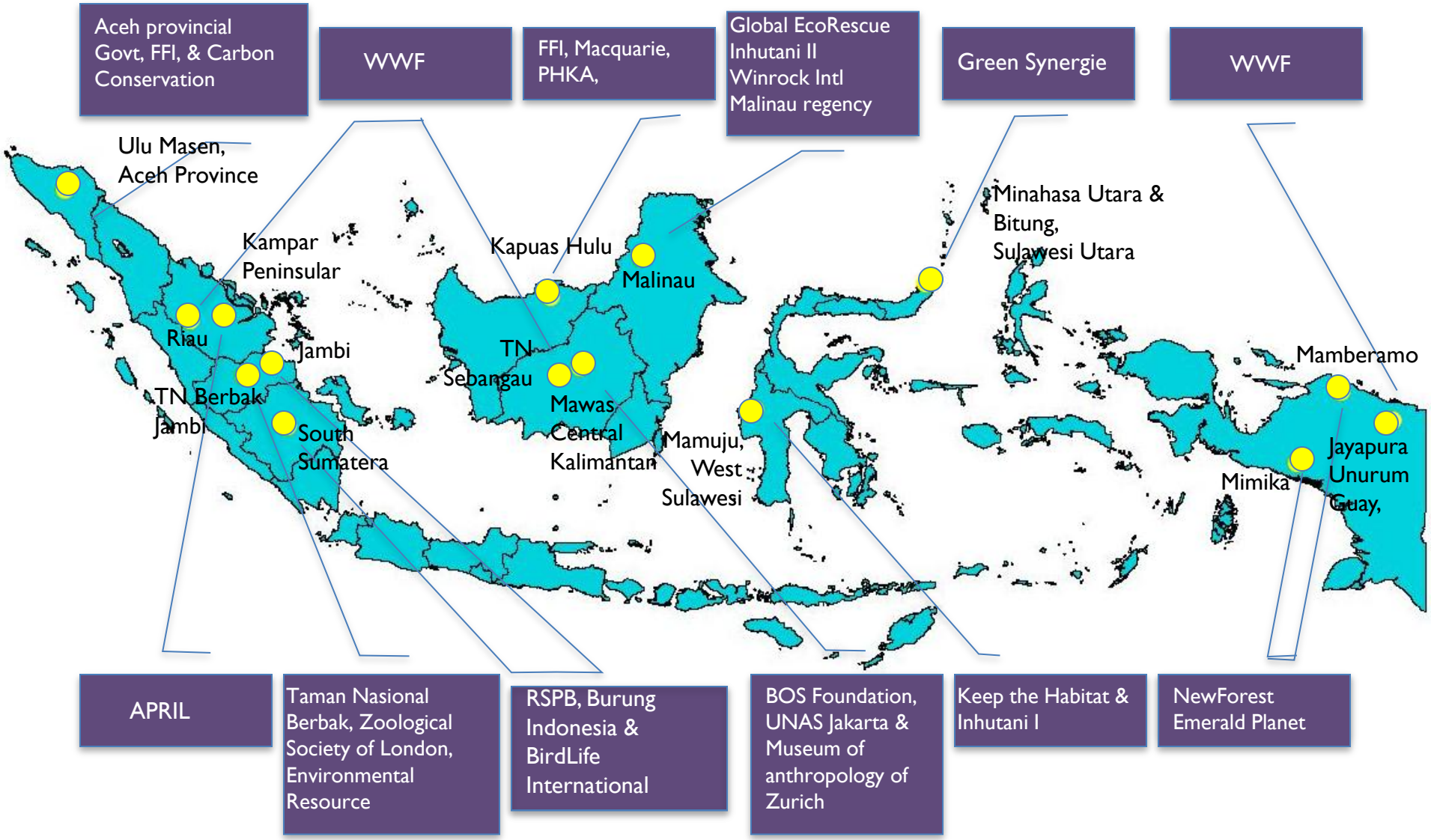
KFCP: AUD 30 Million
- Reducing deforestation & forest degradation (incl. rehabilitation of peatland);
- Monitoring & carbon accounting;
- Payment mechanism:
- Readiness at provincial and district level.

ITTO: USD 540K (2010-12)
- Institutional setting to prevent deforestation;
- Technology in restoration and rehabilitation of PSF;
- Demonstration activities with the plantation of indigenous species.

KOICA: USD 5 Million (2009-13)
Joint research and implementation of pilot project on afforestation/reforestation CDM project and REDD.

UNREDD: USD 1.5 Million (2010-11)
- Capacity for spatial socio-economic planning incorporating REDD;
- Empowered local stakeholders to benefit from REDD;
- Multi-stakeholder-endorsed district REDD plans

Beberapa kegiatan *voluntary* REDD



Demonstration Activities -DA on Mangrove

One DA on Mangrove in Bintan Island

1. **MoF Regulation No. 20 year 2012;**

2. **Community Based Management for 60 years; Community participatory on sustainable resources management to contribute on carbon emmision reduction**

Indonesian BLUE CARBON
Current Status and Future Plans

Blue Carbon Center –Indonesia (BCC-I)
Agency for R & D of Marine and Fisheries
Ministry of Marine Affairs and Fisheries
email : bluecarbon.indonesia@kkp.go.id

Strategic Plan on Marine Carbon Research in Indonesia Seas
(ISBN 978-602-9086-18-8)

Contents:

- Historical of Marine Carbon research 2005 – 2010 by national institutions.
- Optimalization of potential research networking (national, regional, international).
- Planning of the Grand Topic 2 Future Indonesia-Germany on SPICE III (2012-2014).
- Planning of Coastal Carbon Indonesia-China (2012-2014).
- Planning of Coastal Carbon Indonesia-Japan (2012-2014).

Study of Coastal ‘**Blue Carbon’** in Indonesian Waters
(**Ecosystems: Peat-Estuary, Mangove, Seagrass, Coral Reef**)

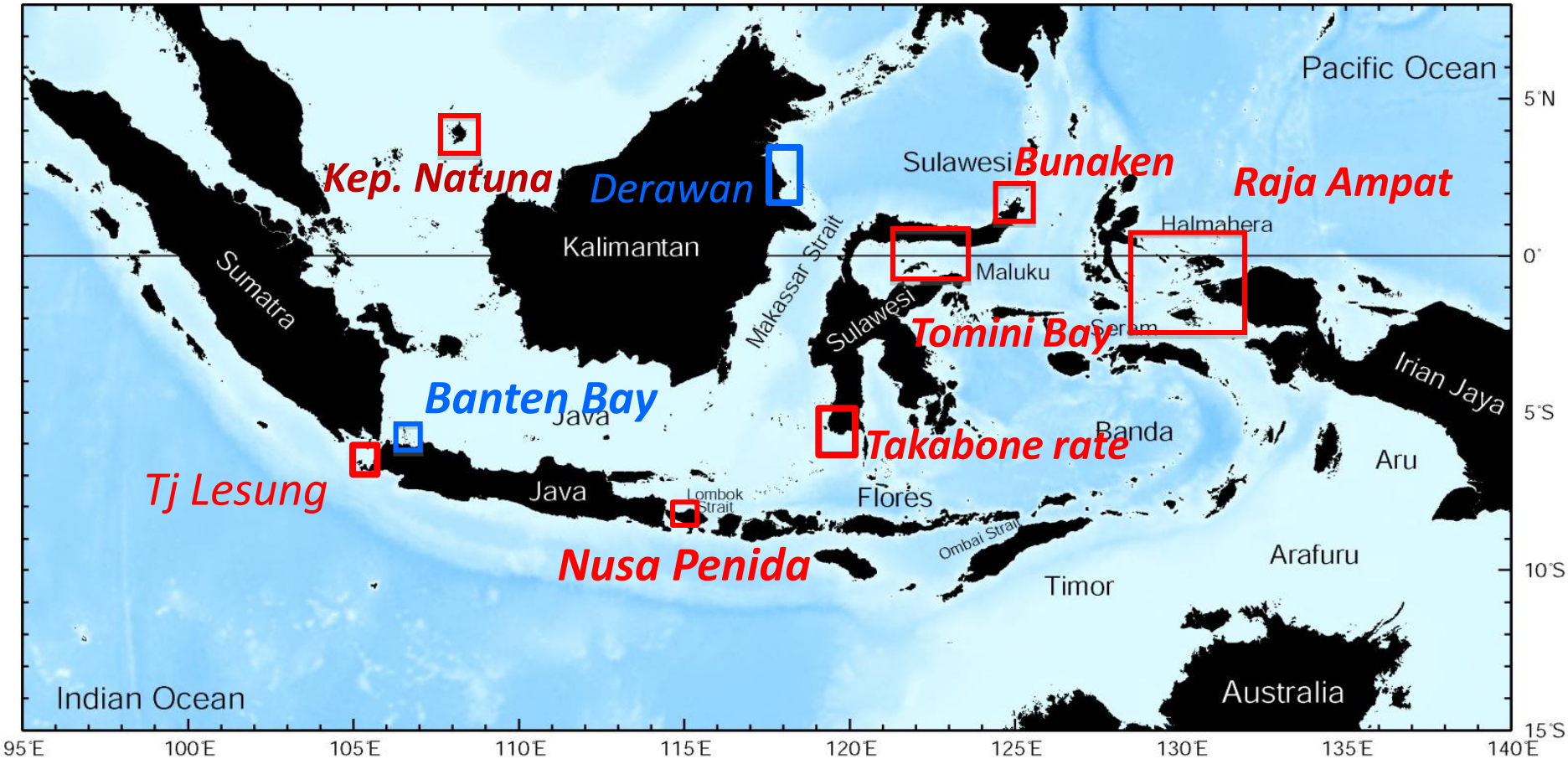
Scientific Findings
on Blue Carbon Quantification

Coastal Blue Carbon Policy

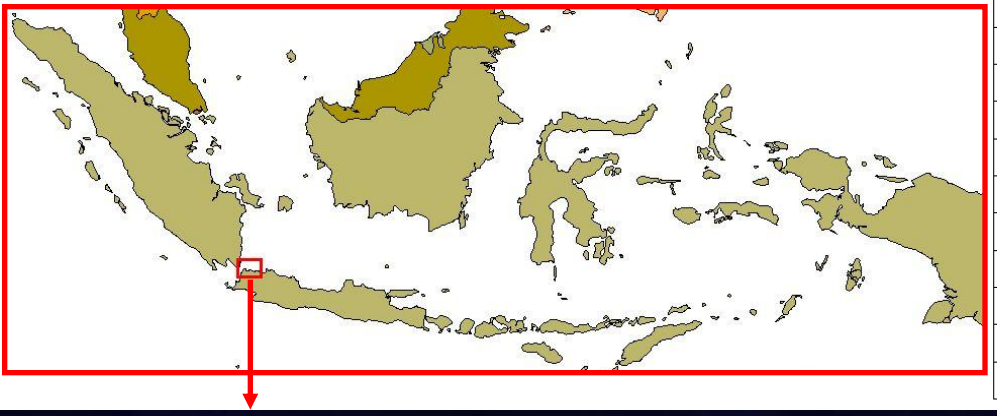
Plans for Study Sites of Blue Carbon project (until 2014)

On going sites

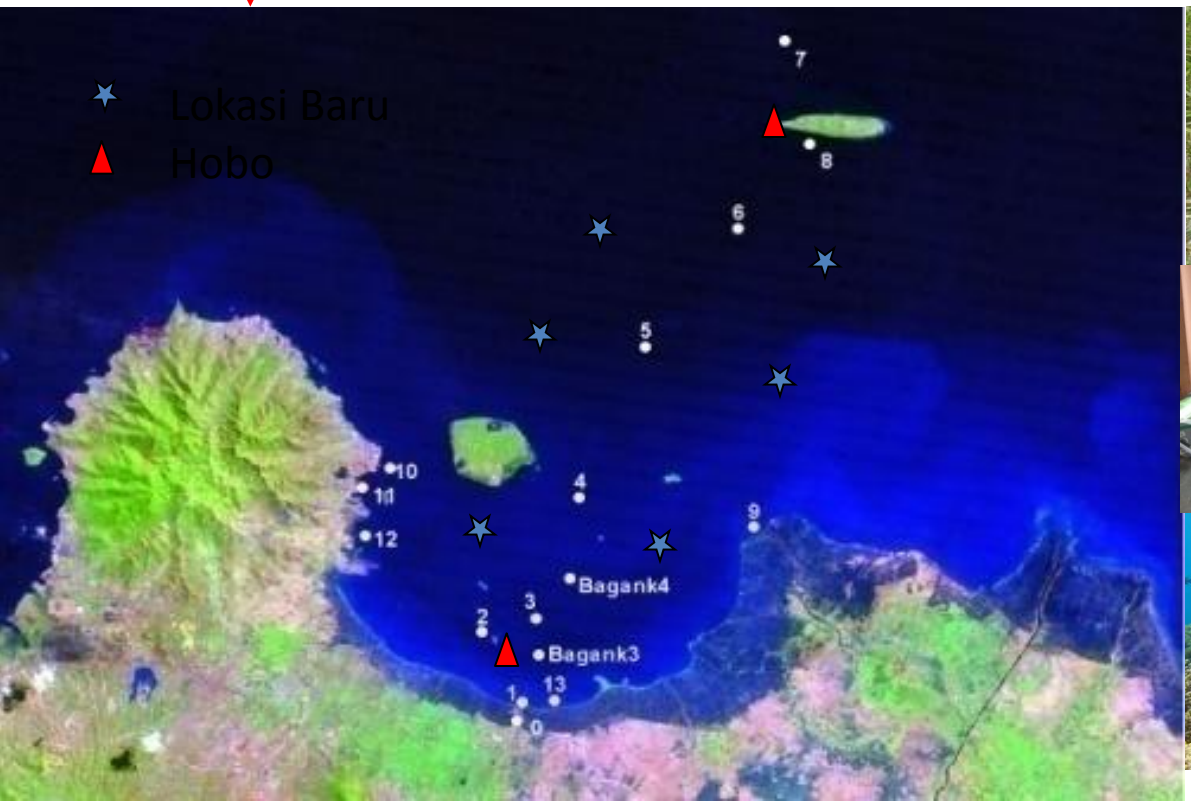
Future sites



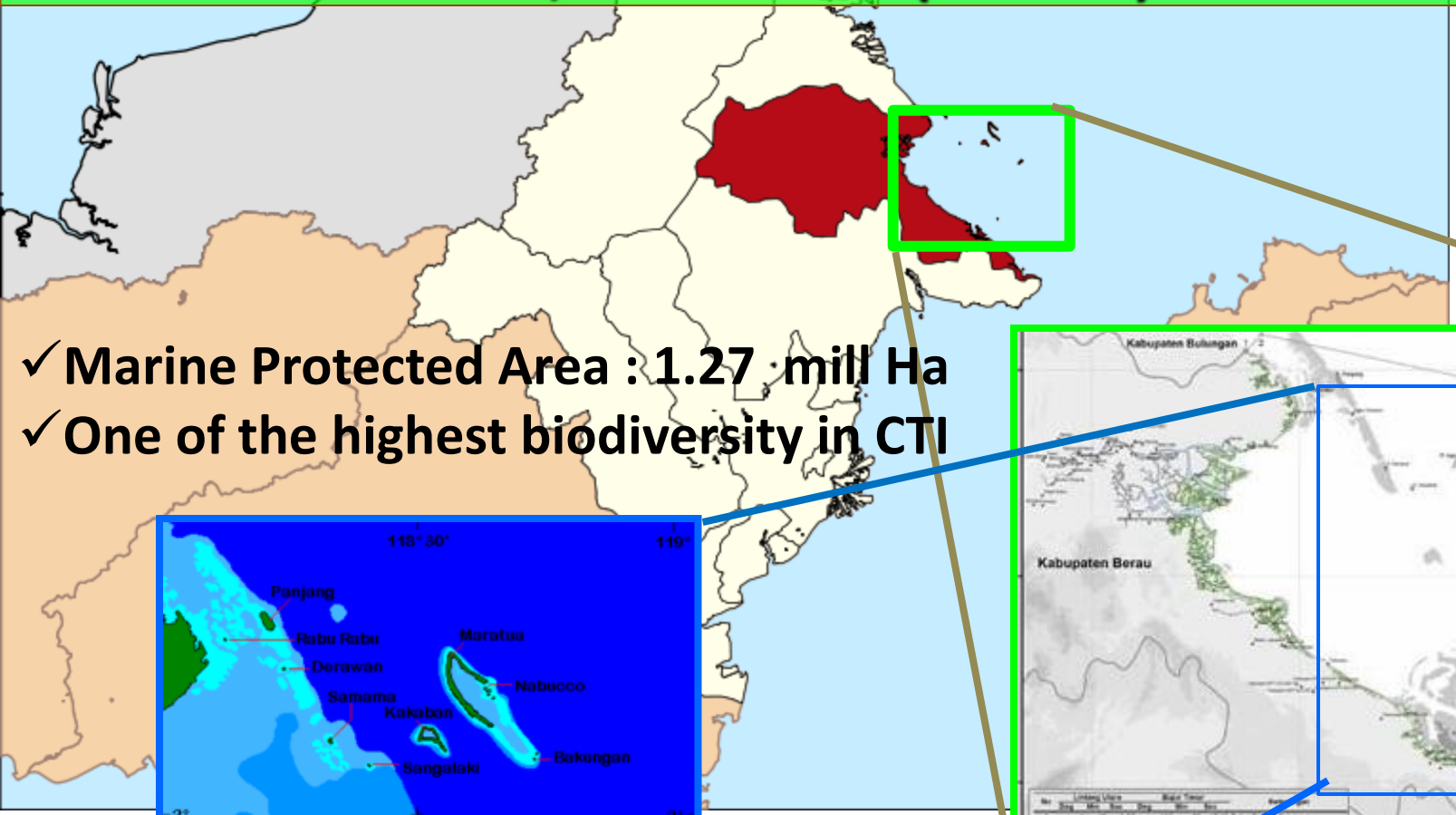
1. Pilot Project Blue Carbon in Banten Bay (2010-now)



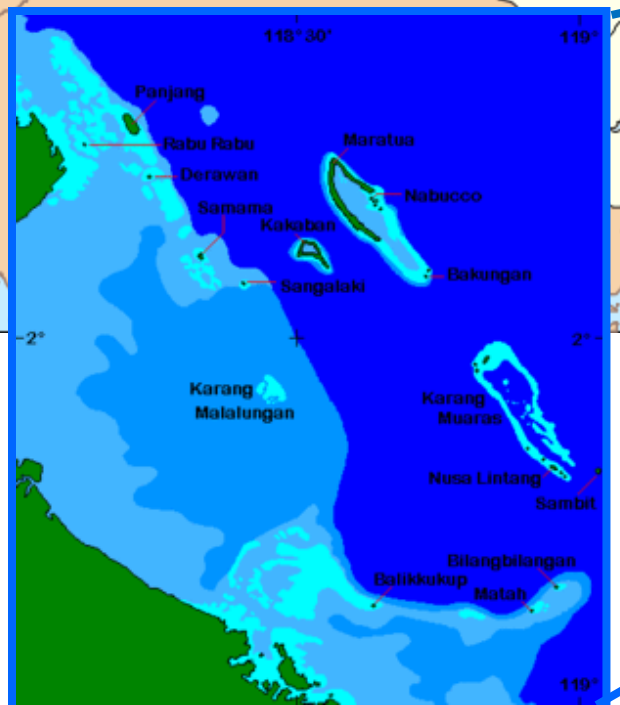
STASIUN	Lintang	Bujur	Deskripsi Stasiun
0	-6.03208	106.16339	Sungai
1	-5.99913	106.15071	Ekosistem lamun (P. Kubur)
2	-6.02515	106.16537	Muara
3	-5.99398	106.17039	Tengah Teluk
4	-5.94931	106.18582	Mulut Teluk
5	-5.89368	106.20937	Luar Teluk
6	-5.84982	106.24267	Laut Jawa (Selatan P. Tunda)
7	-5.78064	106.25951	Laut Jawa (Utara P.Tunda)
Bagank3	-6.00772	106.17118	Produktivitas Primer
Bagank4	-5.97946	106.18246	Produktivitas Primer

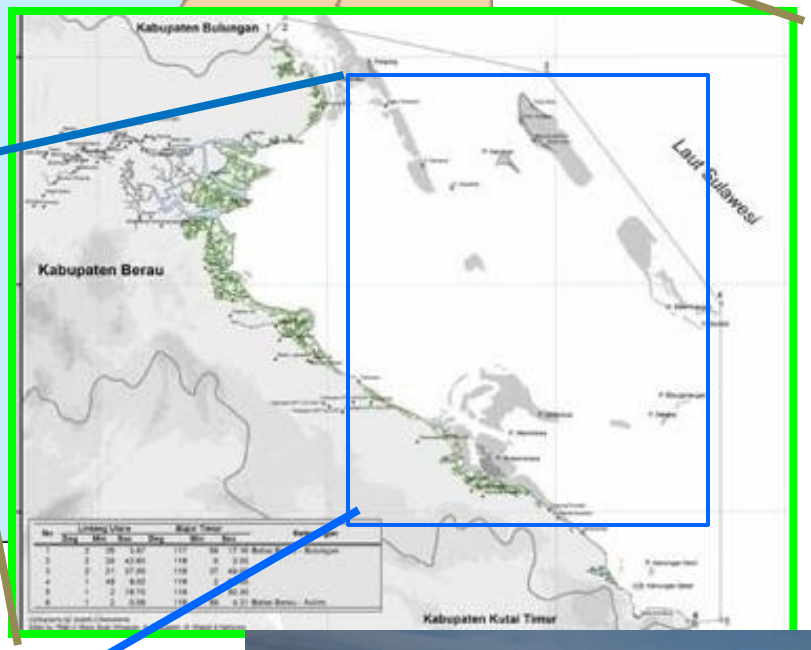


Larger Demonstration Site for Blue Carbon Project in Derawan Islands, East Boneo (2012~)



- ✓Marine Protected Area : 1.27 mill Ha
- ✓One of the highest biodiversity in CTI





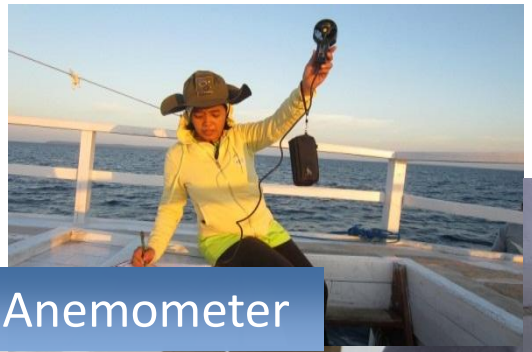
RESEARCH ACTIVITIES IN DERAWAN ISLANDS

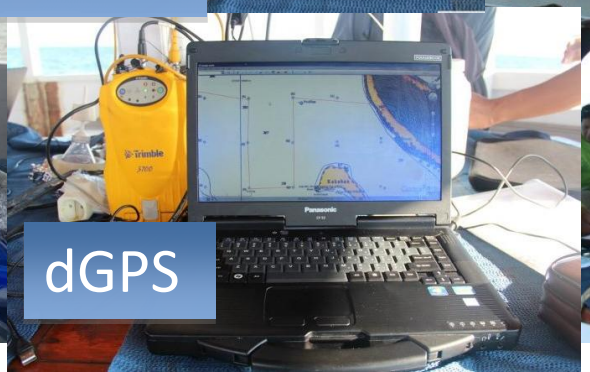
1. **Establishing 4 permanent stations** for time series measurement (meterological and oceanographical data)

2. **Marine's Team**: Collecting meteorological, oceanographycal (Physical-Chem-Bio) data for estimating the Blue Carbon budget and their dynamic in Derawan Islands

3. **Coastal's Team** : Collecting physical-Chem-Bio data of coastal ecosystem (e.g. Seagrass, mangrove, coral and sediment) for estimating the Blue Carbon budget and their dynamics.

Activities on Board

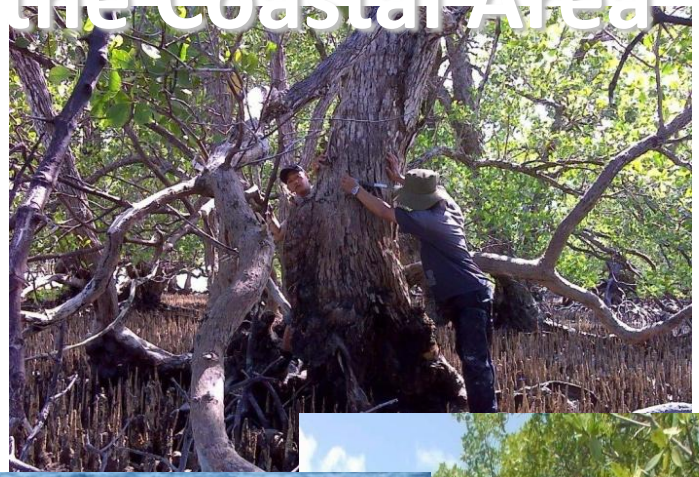


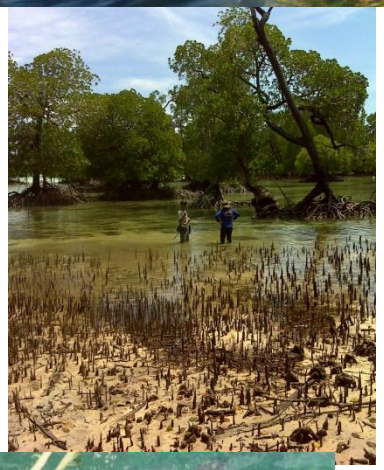


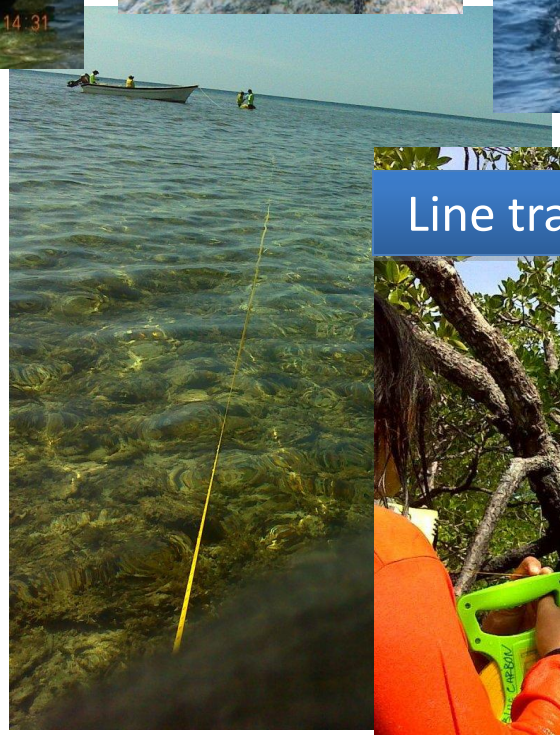
Underway pCO2

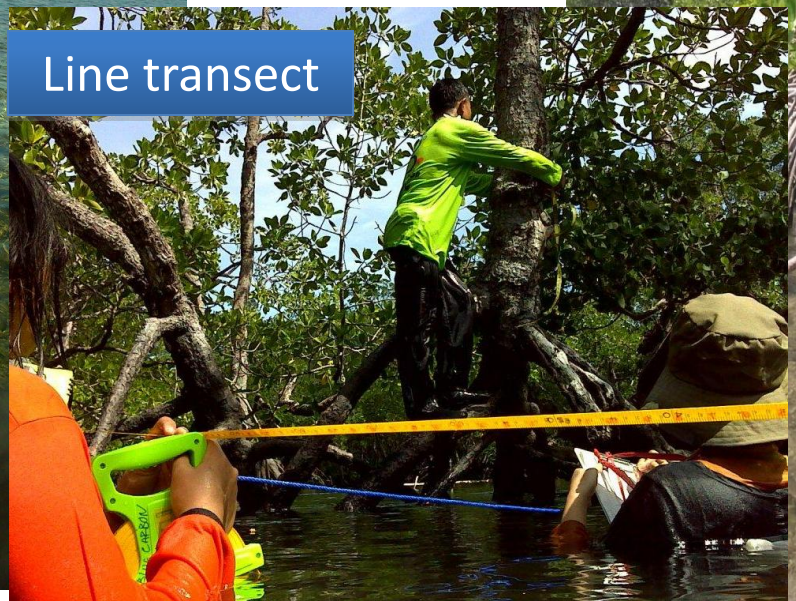
PAM for analysis of fotosyntesis

Activities On the Coastal Area





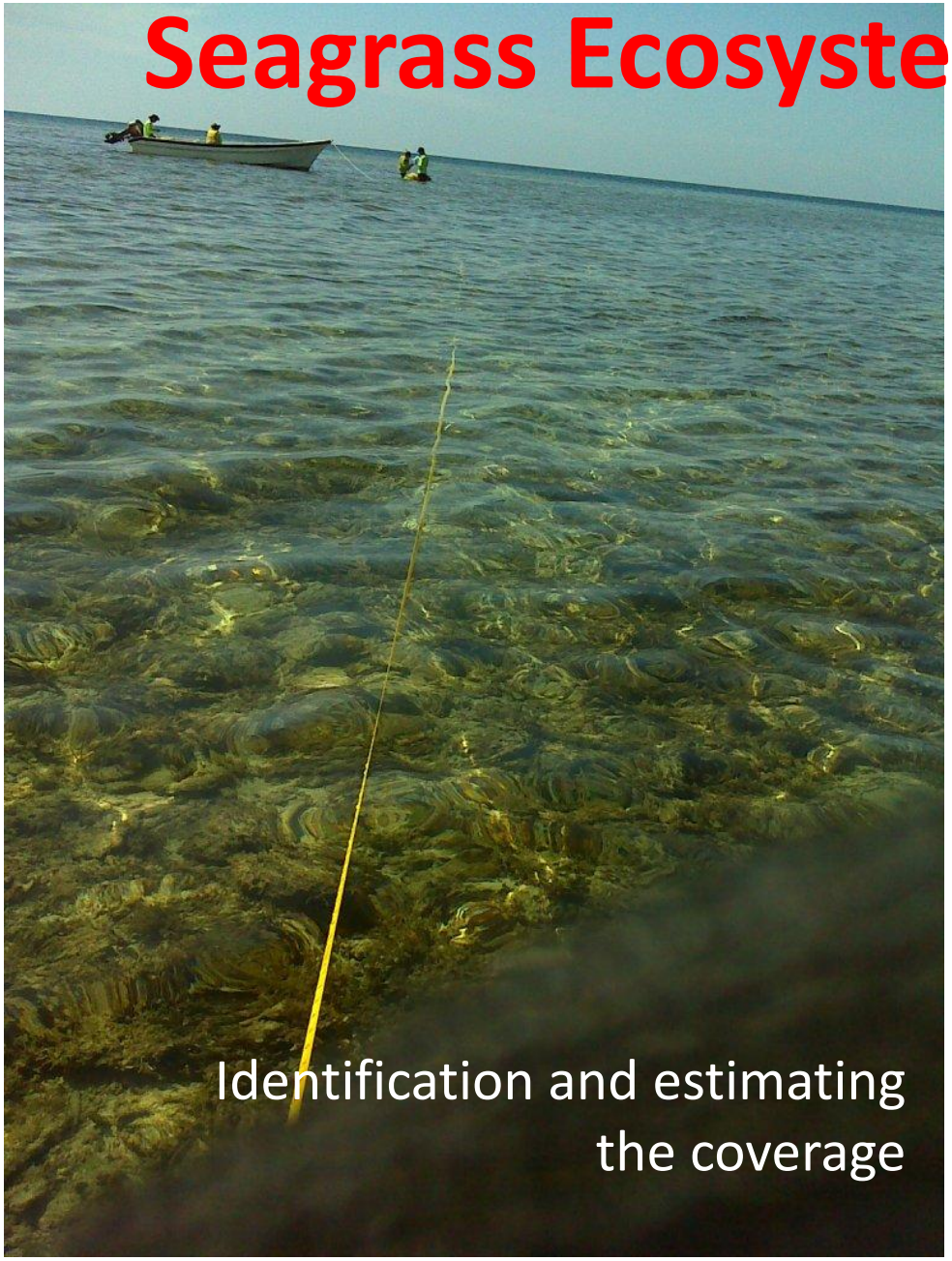




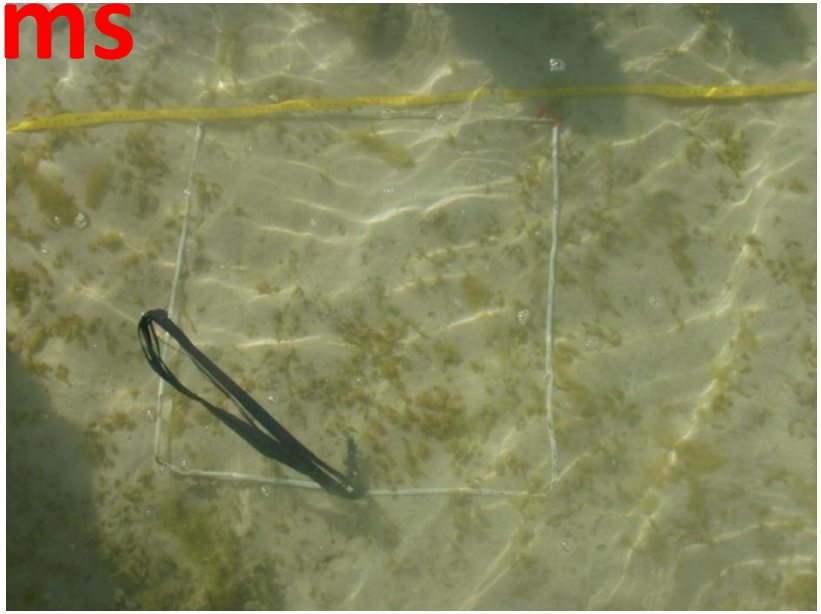
Estimating DBH

Max diameter 240 cm

Seagrass Ecosystems



Identification and estimating the coverage



Biomass and Sediments samplings

Blue Carbon Team-Banten Bay

Blue Carbon Team-Derawan Islands

BLUE CARBON POLICY: THE GAPS

Why coastal and marine ecosystems are overlooked in climate change policy, either in mitigation or adaptation aspect?

1. Lack of scientific basis due to complexity of coastal-marine ecosystems.
2. Status of the ecosystems as common property resources
3. Limited national attention and available funding
4. Low societal perception towards coastal-marine ecosystems

Lesson learned from REDD Plus di Indonesia

Indonesia is the most ready country to implement REDD, but has no adequate institutional readiness (including human resources capacity building) → necessary to accelerate the establishment of an independent institution and credible REDD.

1. **Differences in understanding of REDD (scope, accounting, REL / REL, MRV, safeguards)**
2. **Regulation is not comparable with the development of voluntary REDD initiatives; need to harmonize regulations between central and district; expected to be accelerated through the National Strategy on REDD Plus;**
3. **Lack of coordinations among stake-holders; monitoring and evaluation need to be more intensive in order to provide input to decision-makers**

Outline

- National Action Plan on the GHG's emission reduction
- Activities to Support the National Action Plan on the GHG's emission reduction
- **Campaign**

President Yudhoyono

- Initiating of the **Coral Triangle Initiative**, a cooperation among Indonesia, Malaysia, Philipina, Papua New Guinea, Solomon islands, Timor Leste & Brunei Darussalam, to protecting coral reef ecosystems & its biodiversities.
- Initiating of the **Forest - 11 (F-11)**, a group of tropical forest countries.
- Received the **UNEP Award Leadership in Marine and Ocean Management**, on The 11th Special Session of The Governing Council/Global Ministerial Enviromental Forum on February 2010 in Bali.

Participation of Indonesia to the Global Climate Change Programme

Indonesia's Minister of Marine Affairs and Fisheries and UNEP Executive Director launched the concept of **Blue Carbon** at the 11th Special Session of UNEP Governing Council in Bali, May 2011

Latest Campaign for the Concept on Blue Carbon Policy

IUCN

NICHOLAS INSTITUTE
FOR ENVIRONMENTAL POLICY SOLUTIONS
DUKE UNIVERSITY

MANAGING COASTAL ECOSYSTEMS FOR CLIMATE MITIGATION

Coastal habitats worldwide are under increasing threat of destruction through human activities. This loss of habitat carries with it the loss of critical functions that coastal ecosystems provide, including carbon storage.

This session will discuss... scientific and economic dimensions and explore policy and financing options for conserving carbon in coastal habitats for climate mitigation.

Managing coastal ecosystems for climate change mitigation can achieve multiple benefits towards the achievement of the objectives of the UNFCCC as well as CBD.

Presenters:

- Dr Stephen Crooks, Climate Change Director, ESA PWA
- Dr Brian C. Murray, Research Professor and Director for Economic Analysis, Nicholas Institute
- Robert O'Sullivan, Executive Director North America, Climate Focus
- Dr.-Ing. Widodo S. Pranowo, Head of R&D Programme, Center for Marine & Coastal Resources Research & Development, Ministry of Marine & Fisheries, The Republic of Indonesia

Venue: Climate Change and Response Expo – Pangola Room

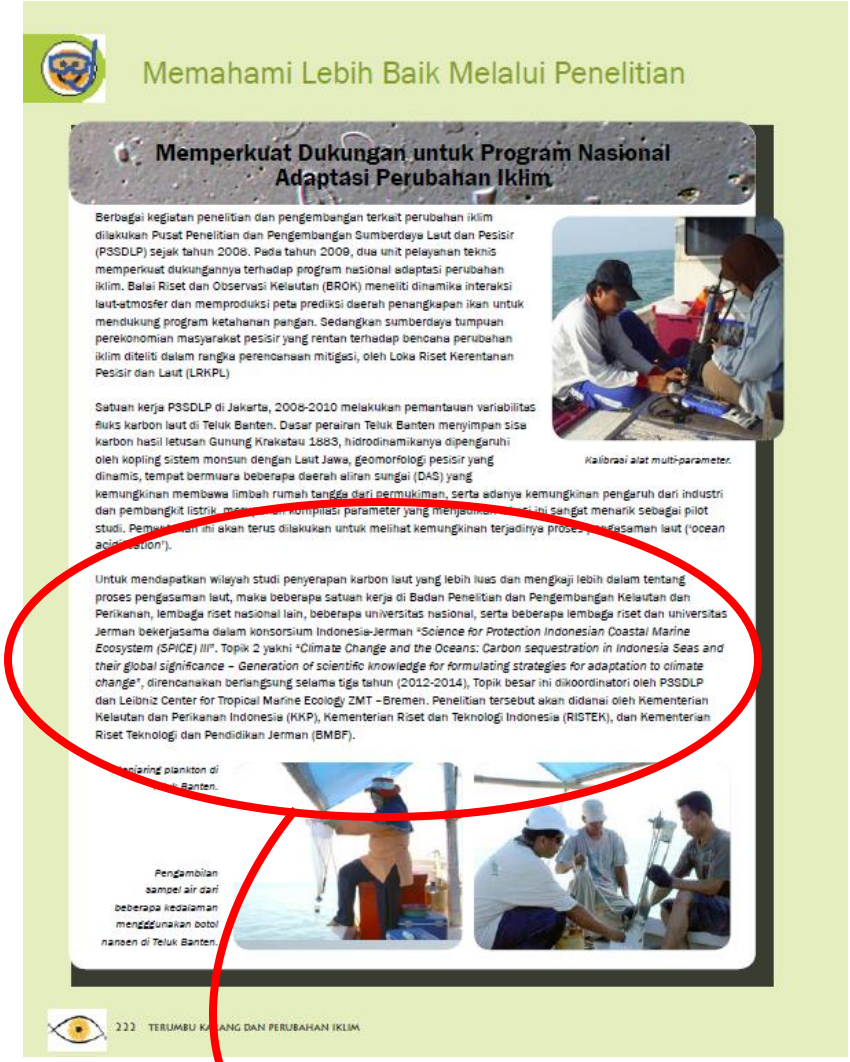
Wednesday 7th December 2011
10:00-11.30am

Contact: Dorothée Herr - dorothee.herr@iucn.org

Rio Conventions PAVILION

This event is part of the Rio Conventions Pavilion.

Participation of Indonesia to the Global Climate Change Programme



Memahami Lebih Baik Melalui Penelitian

Memperkuat Dukungan untuk Program Nasional Adaptasi Perubahan Iklim

Berbagai kegiatan penelitian dan pengembangan terkait perubahan iklim dilakukan Pusat Penelitian dan Pengembangan Sumberdaya Laut dan Pesisir (P3SDLP) sejak tahun 2008. Pada tahun 2009, dua unit pelayanan teknis memperkuat dukungannya terhadap program nasional adaptasi perubahan iklim. Balai Riset dan Observasi Kelautan (BROK) meneliti dinamika interaksi laut-atmosfer dan memproduksi peta prediksi daerah penangkapan ikan untuk mendukung program ketahanan pangan. Sedangkan sumberdaya tumpuan perekonomian masyarakat pesisir yang rentan terhadap bencana perubahan iklim diteliti dalam rangka perencanaan mitigasi, oleh Loka Riset Kerentanan Pesisir dan Laut (LRKPL)

Satuan kerja P3SDLP di Jakarta, 2008-2010 melakukan pemantauan variabilitas fluks karbon laut di Teluk Banten. Dasar perairan Teluk Banten menyimpan sisa karbon hasil letusan Gunung Krakatau 1883, hidrodinamikanya dipengaruhi oleh kopling sistem monsun dengan Laut Jawa, geomorfologi pesisir yang dinamis, tempat bermuara beberapa daerah aliran sungai (DAS) yang kemungkinan membawa limbah rumah tangga dari permukiman, serta adanya kemungkinan pengaruh dari industri dan pembangkit listrik. [illegible] kompilasi parameter yang menjadikan [illegible] ini sangat menarik sebagai pilot studi. Pem[illegible] ini akan terus dilakukan untuk melihat kemungkinan terjadinya proses [illegible] samaan laut ('ocean acidification').

Untuk mendapatkan wilayah studi penyerapan karbon laut yang lebih luas dan mengkaji lebih dalam tentang proses pengasaman laut, maka beberapa satuan kerja di Badan Penelitian dan Pengembangan Kelautan dan Perikanan, lembaga riset nasional lain, beberapa universitas nasional, serta beberapa lembaga riset dan universitas Jerman bekerjasama dalam konsorsium Indonesia-Jerman "*Science for Protection Indonesian Coastal Marine Ecosystem (SPICE) III*". Topik 2 yakni "*Climate Change and the Oceans: Carbon sequestration in Indonesia Seas and their global significance – Generation of scientific knowledge for formulating strategies for adaptation to climate change*", direncanakan berlangsung selama tiga tahun (2012-2014), Topik besar ini dikoordinatori oleh P3SDLP dan Leibniz Center for Tropical Marine Ecology ZMT –Bremen. Penelitian tersebut akan didanai oleh Kementerian Kelautan dan Perikanan Indonesia (KKP), Kementerian Riset dan Teknologi Indonesia (RISTEK), dan Kementerian Riset Teknologi dan Pendidikan Jerman (BMBF).

Kalibrasi alat multi-parameter.

[illegible]jaring plankton di [illegible] Banten.

Pengambilan sampel air dari beberapa kedalaman mengggunakan botol nansen di Teluk Banten.

222 TERUMBU KARANG DAN PERUBAHAN IKLIM

Marine& coastal Carbon Research 2012-2014

Book:

Terumbu Karang & Perubahan Iklim: Panduan Pendidikan & Pembangunan Kesadartahuan

Contributor @ 2011:

Badan Litbang Kelautan & Perikanan

Launched by:

Minister of Marine Affairs & Fisheries

11 May 2011

Translation of Book:

Coral Reefs & Climate Change: The Guide for Education & Awareness.

2009, ISBN 978-06-465-23-60-6

Authors:

Craig Reid, Coral Watch Organization, Justin Marshall, Dave Logan, Univ. Queensland, Diana Kleine.

Participation of Indonesia to the Global Climate Change Programme

Ms.Kerri Ann Jones Ass Secretary of State for Ocean, Environment Scienttiffic Affairs (20 July 2011)

Indonesia and USA goverments
Launched Marine Protected Area Governance (MPAG) (5th July 2012)

Indonesia's Minister of Marine Affairs and Fisheries- Sharif C. Sutardjo , US embassy - Scot Marciel dan Deputy Administrator USAID -Donald Steinberg

Grand Topic 2 (Climate Change & the Ocean) SPICE III:
Carbon sequestration in Indonesian Seas & their global significance: generation of scientific Knowledge for formulating strategies for Adaptation to climate change (CISKA)

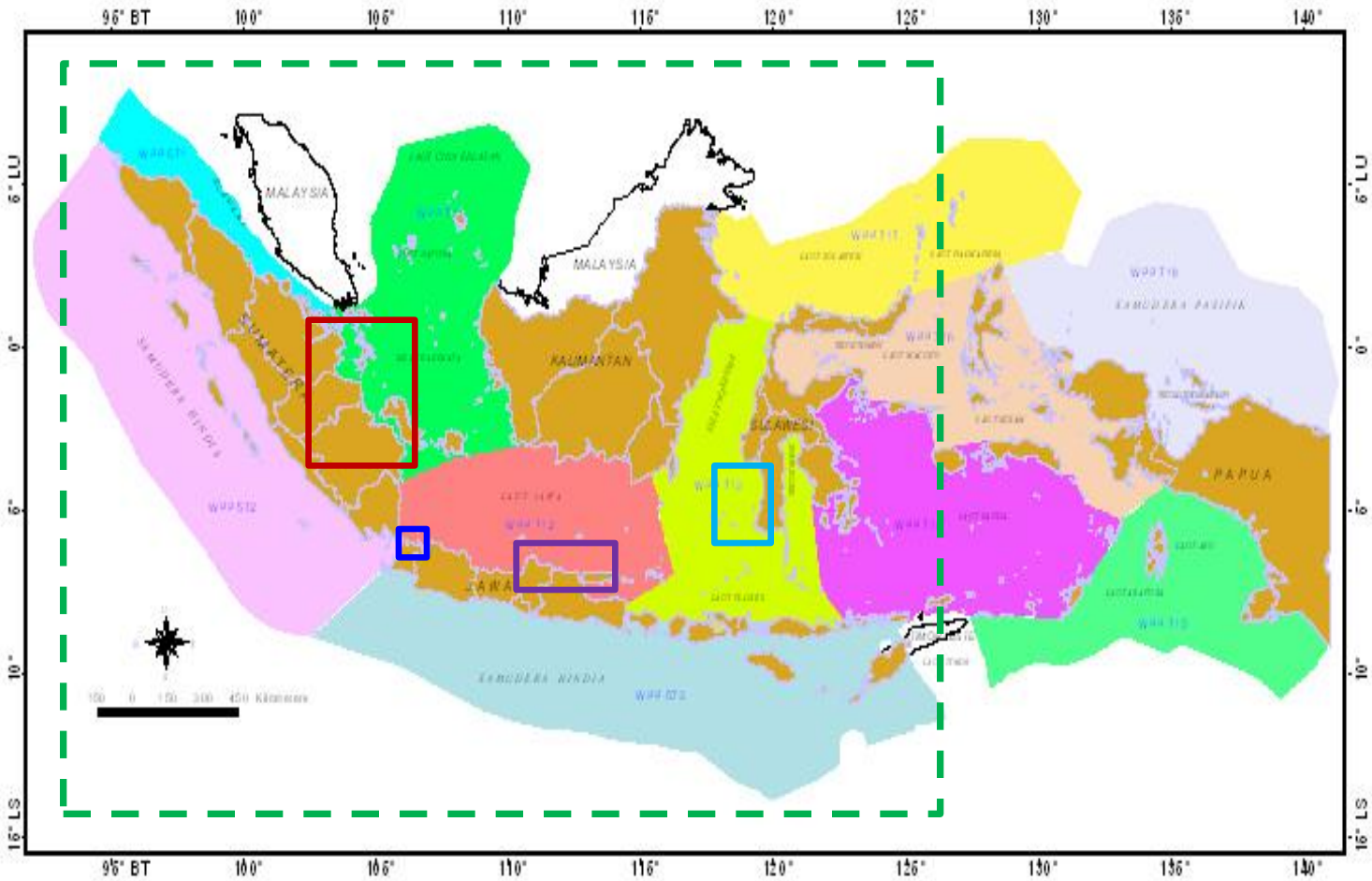
Blue Carbon Policy
Based on Scientific Findings

The overarching CISKA goal:

is **to quantify** and **to value** the **carbon storage** in Indonesian coastal ecosystems and **to develop sustainable management strategies** in the framework of **CDM**.

(source: Pranowo & Rixen, 2011)

Location for the marine carbon research proposed on the Fisheries Management Area



- The Indonesian key areas during 2012-2014 activities all projects will jointly within the areas,
- The additional data will be collected between the areas in order to get comprehensive overview for the main target area (Karimata strait, Java Sea & Makassar strait).

National Strategic Intervention

Menyingkap Potensi

Karbon Biru Indonesia

Dari ekosistem padang lamun dan mangrove saja, Indonesia bisa menyerap karbon sebesar 138 juta ton/tahun.

Newspaper

Facebook and Twetter Visitors : 542 persons/week

More 22 countries

National Strategic Intervention

This forum plans to have regular meeting in each semester to discuss both scientific and policy of Blue Carbon.

Develop workshops, Training & Capacity Building on Blue Carbon

The last meeting was attanded more than 18 institutions from goverment, international organisations, NGOs and Universities

Terima Kasih

Gracias

Thank You