



Policy on Peat and Climate Change in Indonesia

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OUTLINE

- ▶ STATUS OF PEATLAND IN INDONESIA
- ▶ THREATS ON PEATLAND MANAGEMENT
- ▶ PEAT AND CLIMATE CHANGE
- ▶ POLICY RELATED TO PEAT AND CLIMATE CHANGE IN INDONESIA
- ▶ REFERENCES

STATUS OF PEATLAND IN INDONESIA

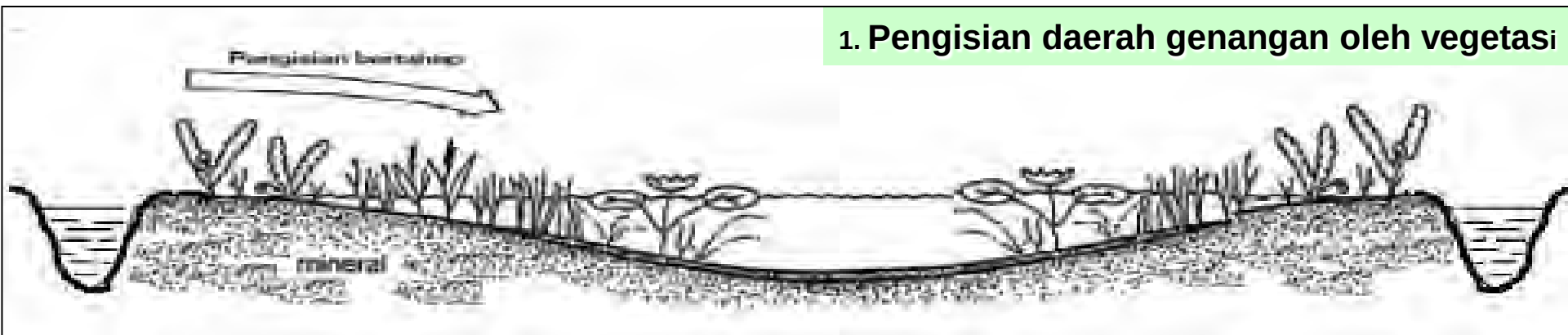
▶ Peatland area :

- 20.6 million ha (Wahyunto et al. 2005)
- 32.6 million ha (MoE 2009) peat ecosystem, based on hydrological unit mapping
- → ranks 4th the largest peatland in the world after Russia, Canada, USA
- → 50 % of tropical peatland
- → 10.8 % of land area of Indonesia
- → distributed in Sumatera, Kalimantan, Sulawesi, Papua and Java

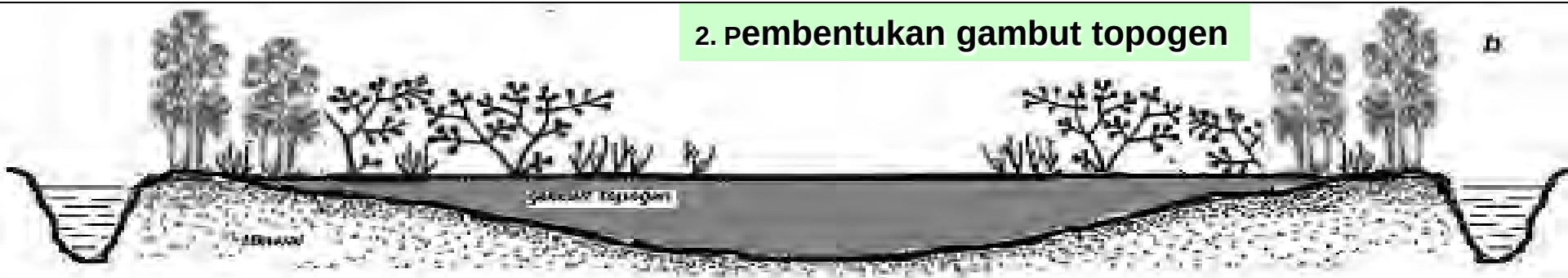


PROSES PEMBENTUKAN GAMBUT

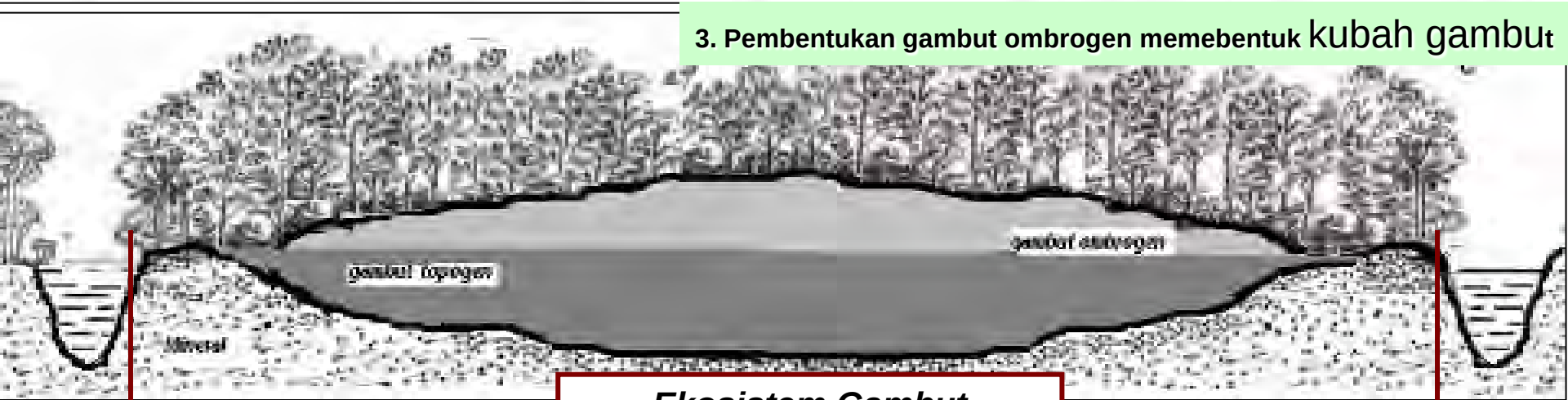
1. Pengisian daerah genangan oleh vegetasi



2. Pembentukan gambut topogen

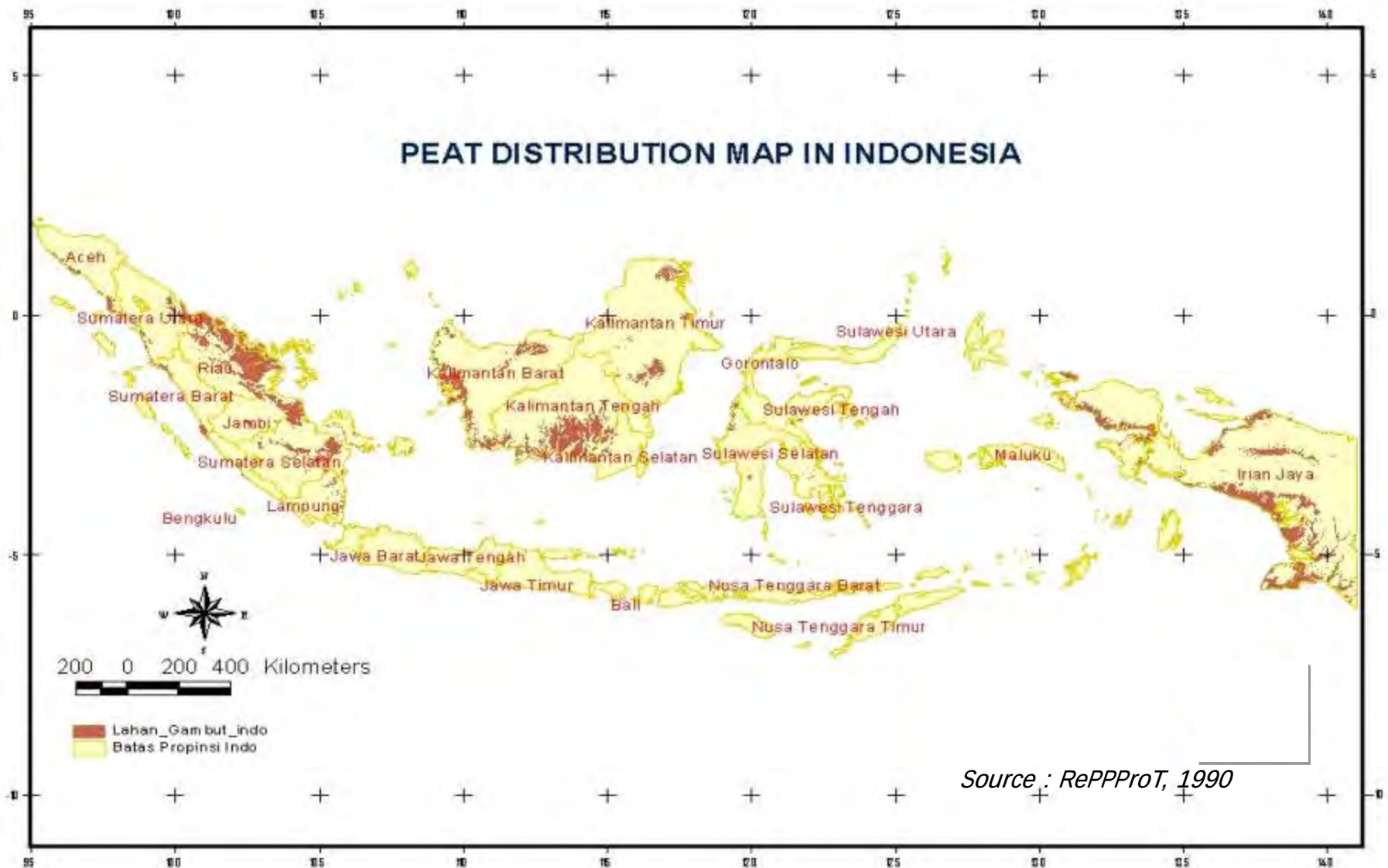


3. Pembentukan gambut ombrogen memebentuk kubah gambut



Ekosistem Gambut

Indonesian Peat Distribution



Distribution Map of Peat Ecosystem in Indonesia



LEGENDA

- Batas Negara
- Batas Provinsi
- Garis Pantai

KESATUAN HIDROLOGIS GAMBUT

- Kawasan Budidaya Gambut
- Kawasan Lindung Kubah Gambut

Sumber: 1. Pengantar Ekosistem Cagar Budaya TPA-3 dan ETP-7 (Tahun 2007/2008)
 2. Data Luas Kawasan Lindung Cagar Budaya dan Kawasan Budidaya, Direktorat Ekowisata, Tahun 2007
 3. Map Indonesia, Tahun 1998

PULAU	LUAS (Ha)		
	KA WASAN BUDIDA YA GA MBUT	KA WASAN LINDUNG KUBA H GA MBUT	KESA TUA N HIDROLOGIS GA MBUT
SUMATERA	8.185.668	2.702.531	10.888.199
KALIMANTAN	7.371.307	3.013.740	10.385.047
SULAWESI	548.496	62.656	611.152
PAPUA	9.415.435	1.266.827	10.682.262
JAWA	89.446	0	89.446
TOTAL	25.610.352	7.045.753	32.656.106



KEMENTERIAN NEGARA LINGKUNGAN HIDUP
2009

THREATS ON PEATLAND MANAGEMENT

- ▶ Overdrainage
- ▶ Peat Fire in land clearing
- ▶ Peat Forest Conversion

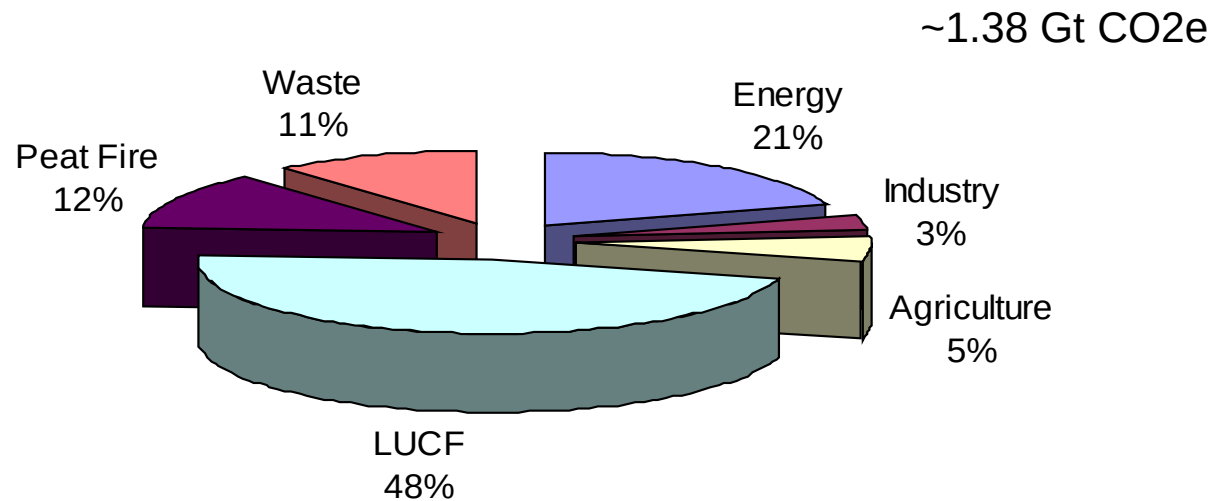


PEAT AND CLIMATE CHANGE

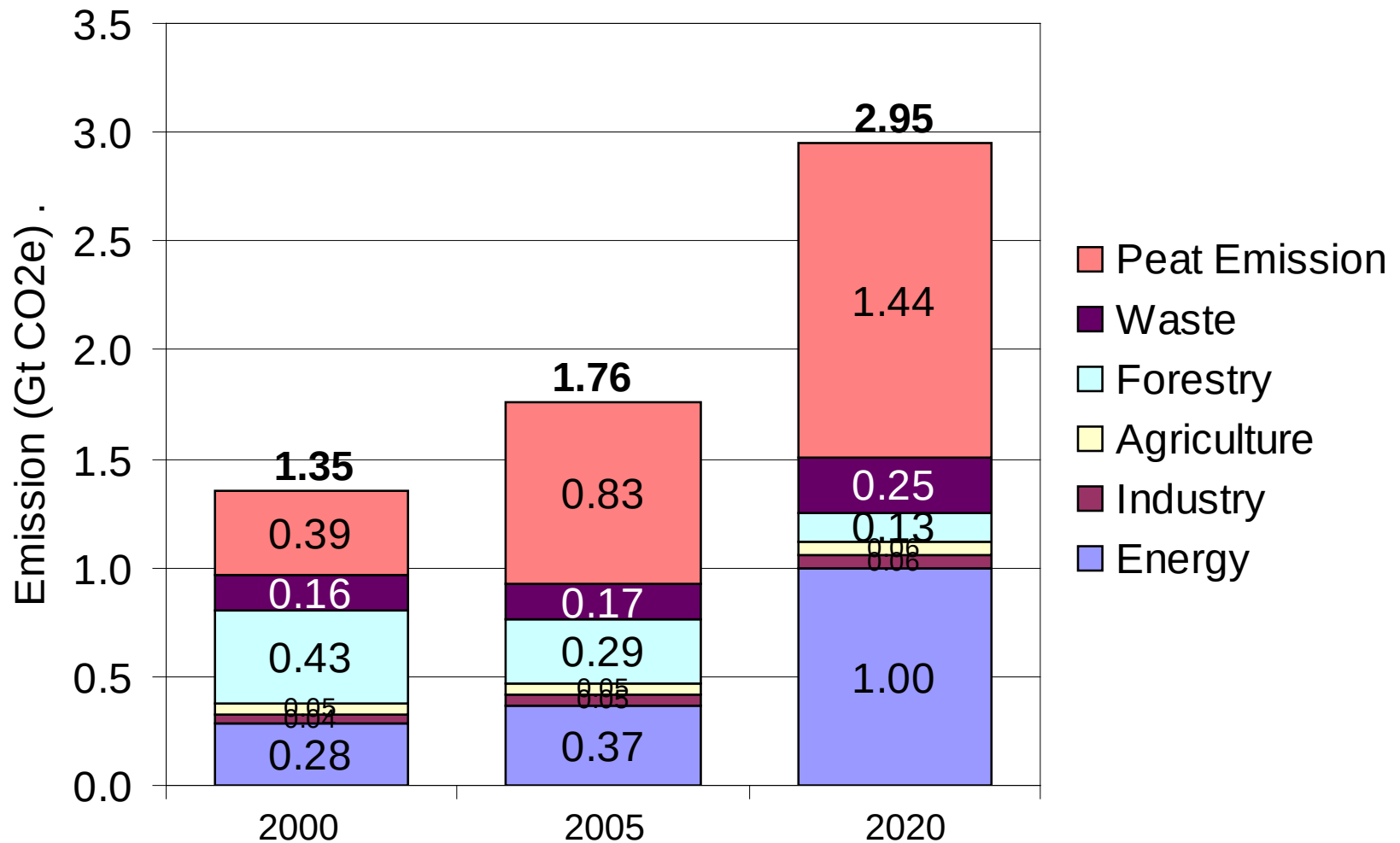


Table Summary of GHG Emission 2000
(dalam Giga gram)

	CO2 emission	CO2 removal	CH4	N2O	PFC	CO2e
Energy	247,522		1,437	10		280,938
Industry	40,342		104	0.43	0.02	42,815
Agriculture	2,178		2,419	72		75,420
LUCF	1,060,766	411,593	3	0.08		649,254
Peat Fire*	172,000					172,000
Waste	1,662		7,294	8		157,328
TOTAL	1,524,472	411,593	236,388	28,341		1,377,754



Emisi Netto Indonesia expected from 1.35 (200 0) to 2.95 GtCO₂e (2020)



Key source categories are peat emission, forestry, energy and waste. Emission from peat fire was taken from van der Werf et al (2007). The figure in the charts did not include emission from emission from liming and fertilizing

POLICY RELATED TO PEAT AND CLIMATE CHANGE IN INDONESIA

- ▶ Forestry Sector :
 - Aforestation/Reforestation CDM (A/R CDM)
 - Reducing Emission from Deforestation and Forest Degradation (REDD)



PENUTUPAN HUTAN YANG HARUS DIPERTAHANKAN BERDASARKAN KEBIJAKAN DAN PERATURAN-PERUNDANGAN

Tutupan Berhutan	Lahan Gambut	Kawasan Hutan				Areal Penggunaan Lain		Total
		H.Konservasi	H.Lindung	H.Produksi		Lereng >40%	Lereng <40%	
				Lereng >40%	Lereng <40%			
Hutan Primer	Gambut	500.585	63.277		627.040		127.307	1.318.208
	Non Gambut	11.176.356	19.290.253	2.030.285	19.598.298	285.692	2.521.274	54.902.158
Hutan Sekunder	Gambut	1.006.368	649.985		5.132.660		596.376	7.385.390
	Non Gambut	1.749.121	3.645.897	496.694	16.120.675	199.060	5.118.435	27.329.882
Mangrove	Gambut	442.678	263.183		487.085		453.152	1.646.098
	Non Gambut	117.327	173.098	377	439.536	358	517.821	1.248.517
Total	Gambut	1.949.631	976.445	-	6.246.785	-	1.176.834	10.349.696
	Non Gambut	13.042.804	23.109.247	2.527.357	36.158.509	485.111	8.157.530	83.480.557
		14.992.435	24.085.692	2.527.357	42.405.294	485.111	9.334.364	93.830.253

PENUTUPAN BERHUTAN TAHUN 2009 SELUAS = 93,8 JUTA HA

PENUTUPAN HUTAN YANG HARUS DIPERTAHANKAN SELUAS **72,5 JUTA HA**
TERDIRI DARI:

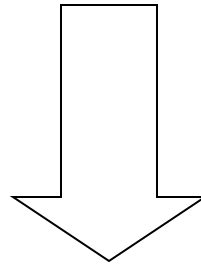
1. HUTAN PRIMER (ALAM) SELUAS = **56,2 JUTA HA**
2. LAHAN GAMBUT SELUAS = **9,0 JUTA HA (diluar Gambut dan H. Primer)**
3. HUTAN KONSERVASI & HUTAN LINDUNG SELUAS = **5,7 JUTA HA (diluar Gambut dan H. Primer)**
4. HUTAN PRODUKSI & AREAL PENGGUNAAN LAIN SELUAS = **1,6 JUTA HA (Lereng >40% dan Mangrove)**

Action Plan for GHG Emission Reduction in Indonesia

Sector	Target for GHG emission reduction (Giga ton CO ₂ e)		Action Plan	K/L Implementor
	26 %	15 % (Total 41 %)		
Forestry and Peatland	0.672	0.367	Forest and land fire control, network hydrological system management, forest and land rehabilitation , HTI, HR, mapping of hydrological unit and peat characteristics. illegal logging, enforcement, deforestation prevention , community empowerment	MoF, MoE, Min of General Works, Min. of Agriculture
Waste	0.048	0.030	Waste management with 3R and integrated waste management at urban area	MoE, Min of General Works,
Agriculture	0.008	0.003	Introduction of low emission rice variety, water irrigation efficiency, organic fertilizer	Min. of Agriculture , MoE
Industry	0.001	0.004	Energy efficiency, using renewable energi etc.	Min. of Industries
Energy and Transportation	0.038	0.018	Biofuel, machine with high fuel efficieny standard,public trensport and road quality, Demand Side Management, energy efficiency , renewable energy development	Min. of Transportation, Min of Energy and Mineral Resources, Min. of General Works
Total	0.767	0.422		

Strategy for GHG emission reduction in forestry and peatland

1. Institutional arrangement
2. Mapping of peat ecosystem and determination of peatland function
3. Management according to local condition → follow hydrological system (water management) → master plan/action plan
4. Degradation control → degradation criteria



Include in Government Regulation Plan for Peatland
Environmental Degradation Control (Act No.32/2009
ch. 56

POLICY RELATED TO PEAT AND CLIMATE CHANGE IN INDONESIA

► Policies :

- Presidential Decree RI Number 80/1999 about Guidelines for Peatland Management in Central Kalimantan
- Ministry of Forestry Regulation No. P-30/Menhut-II/2009 about Procedures of REDD
- Ministry of Forestry Regulation No. P-36/Menhut-II/2009 about Procedures of Permit on Forest Utilization in Carbon Sink and or Carbon Store in Production Forest and Protection Forest

Policies

continued

- Instruction of President Number 2/ 2007 about Rehabilitation and Revitalization of Peat land Management Acceleration in Central Kalimantan
- Ministry of Agriculture Regulation Number 14/ Permentan/Pl 10/2/2009 about Guideline for Peat land Utilization for Oil Palm Plantation
- President Decree for Institutional Prepreapration for REDD Implementation
- Finalization of Government Regulation on Environmental Degradation Control in Peatland Ecosystem
- Preparation of President Decree for National Policy Of nature forest and peatland conversion moratorium to suport GHG reduction

POLICY RELATED TO PEAT AND CLIMATE CHANGE IN INDONESIA

- Copenhagen Accord (Climate Change Conference 2009) : Indonesia commitment on climate change issues to reduce emission by 26 percent in 2020
- Emission reduction potency from 5 aspects:
 - Land use allocation : 433 mill tons CO₂e
 - Fire prevention : 207 mill tons CO₂e
 - Sustainable Forest Management : 118 mill tons CO₂e
 - **Peatland rehabilitation** : 83 mill tons CO₂e
 - Aforestation : 73 mill tons CO₂e
 - Others : 328 mill tons CO₂e

POLICY RELATED TO PEAT AND CLIMATE CHANGE IN INDONESIA

- ▶ Letter of Intent (LoI) Indonesia–Norway on REDD, 27 May 2010, three phases:
 - **Phase 1 (Preparation) : July – December 2010**
 - Establishment of National Strategy on REDD+
 - Establishment of REDD+ institution
 - Determination of independent institutions of MRV
 - Determination of funding instrument
 - Determination of pilot site province

POLICY RELATED TO PEAT AND CLIMATE CHANGE IN INDONESIA

- ▶ Letter of Intent (LoI) Indonesia–Norway on REDD, 27 May 2010, three phases:
 - **Phase 2 (Transformation) : 2011 – 2013**
 - Operations on funding instrument
 - MRV tier 2 and possibility to increase to tier 3
 - **Moratorium on new permit of natural forest and peatland conversion**
 - Development degraded forest database for investigation
 - Law enforcement of illegal logging, timber trade, and establishment of Forestry Criminal Action Unit
 - Solving problem of land tenurial conflict

POLICY RELATED TO PEAT AND CLIMATE CHANGE IN INDONESIA

- ▶ Letter of Intent (LoI) Indonesia–Norway on REDD, 27 May 2010, three phases:
 - **Phase 3 (Contribution payment)** : 2014 on

Current project status of peatland management policies and program in Indonesia

- ▶ Implementation Development Master Plan for Peatland Management in Riau Province,
- ▶ Development Master Plan for Peatland Management in west Kalimantan Province, in the process (meetings with local government)
- ▶ Mapping of Peatland Ecosystem and Peatland Characteristic

Conclusion

- ▶ **Integration** of consideration of climate change impacts into development planning is **essential**.
- ▶ **Vulnerability and Adaptation Assessment (V&A)** that includes **Risk Assessment** is the first important and **strategic step** in adapting to climate change
- ▶ **Mainstreaming** climate change issues into development planning is important
- ▶ Impact of climate change (incl extreme events; climate related disasters) is **very locally specific (unevenly distributed)**, therefore involvement of local stakeholders is essential.
- ▶ Forest and/or land fires control should be stressed on **prevention** efforts rather than suppression efforts.
- ▶ **Forestry and peatland** sector play very important role in GHG emission reduction

Thank you