



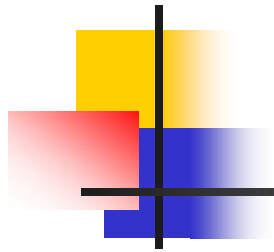
Needs and Prospects of Co-benefits Activities in Thailand

Dr. Chaiwat Muncharoen

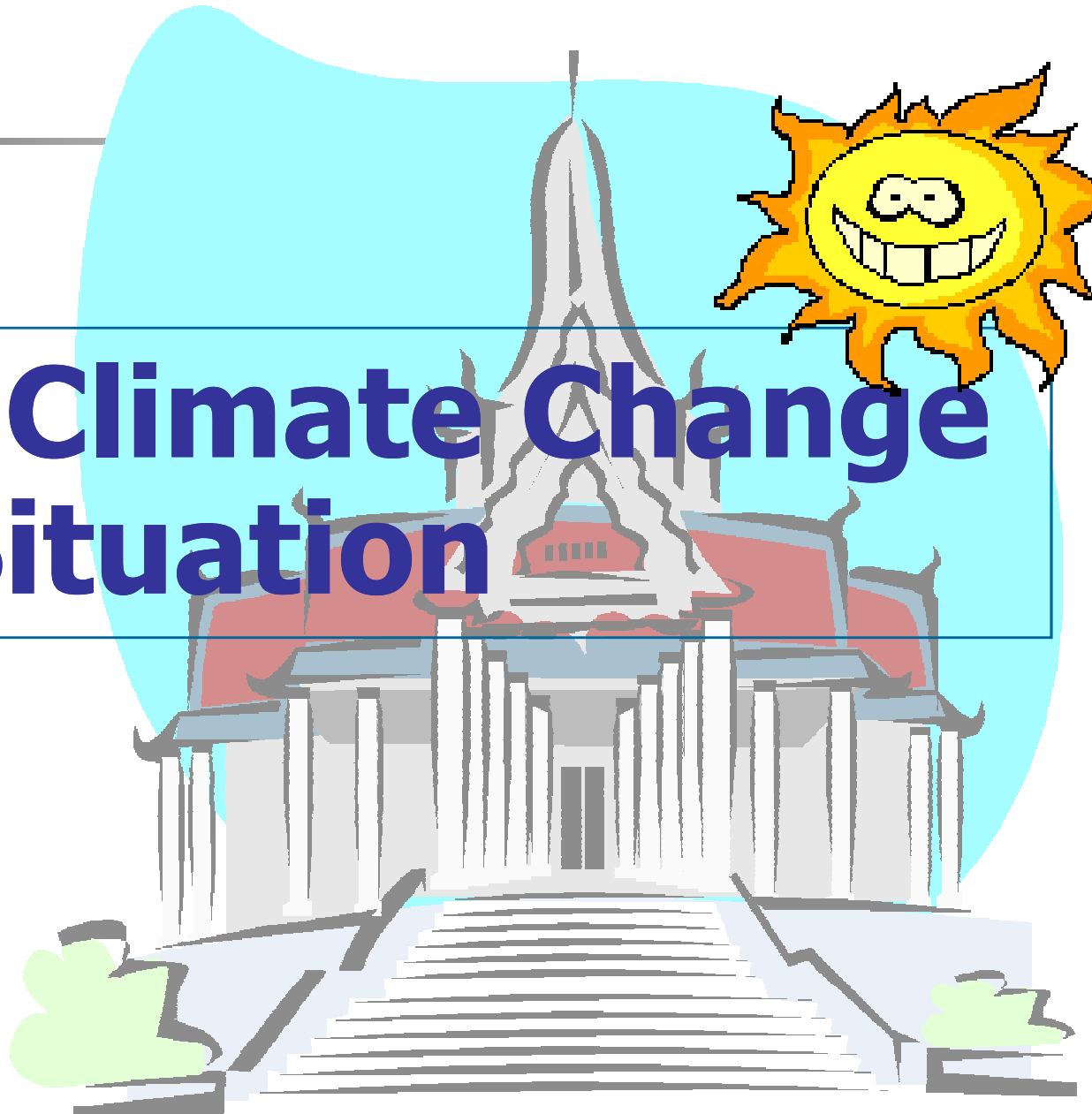
Deputy Executive Director

Thailand Greenhouse Gas Management
Organization (Public Organization)

Ministry of Natural Resources and Environment



Thailand Climate Change Situation



Thailand average temperature increase approximately 1 ° c for the past 40 years

Source: ดร. ธนวัฒน์ จารุพงษ์สกุล

After 1960, sea level has increased approximately 20 mm per year

Source: ดร. นวรัตน์ ไกรพานนท์ และสุไชยา ดุลยาภรณ์

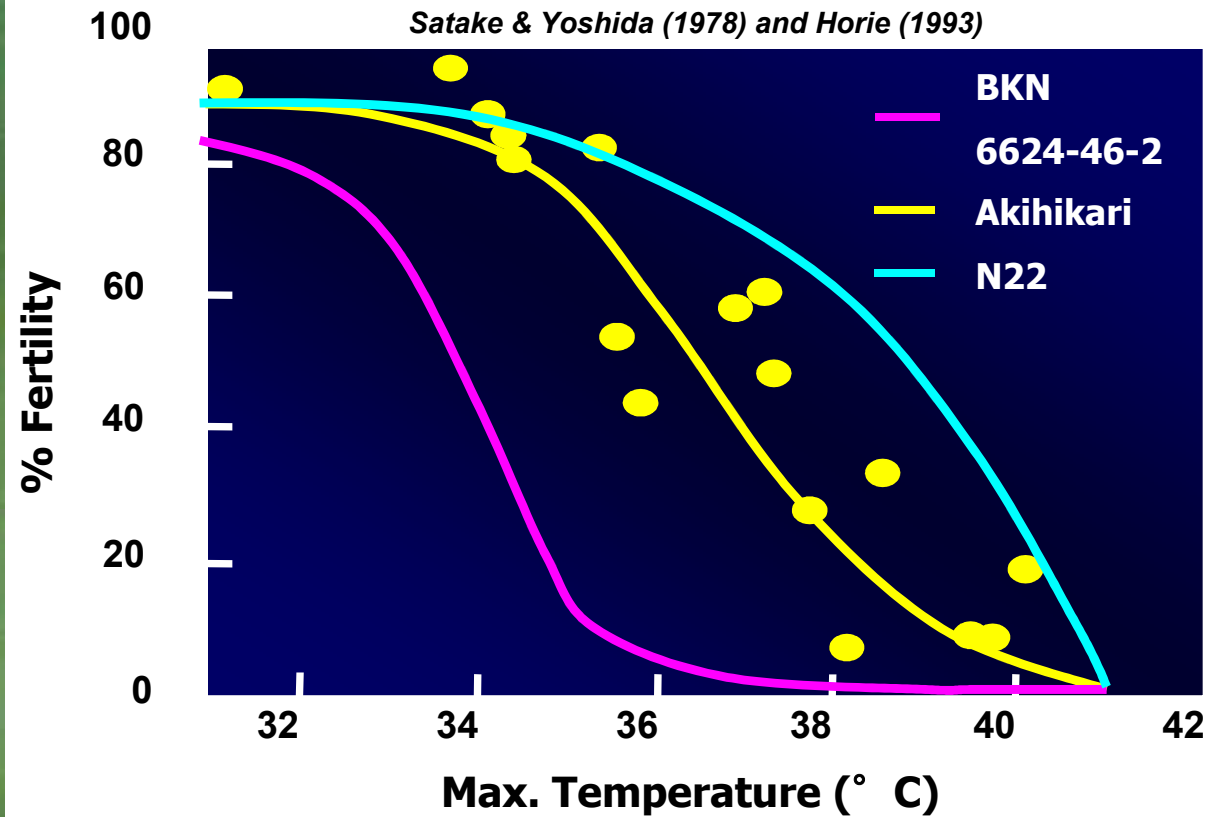
It is expected that rainfall level will decrease to 800-900 mm per year but have the differentiation in each area

Source: ดร. นิพนธ์ ตั้งธรรม

Effects of Increased Temperature



Rice

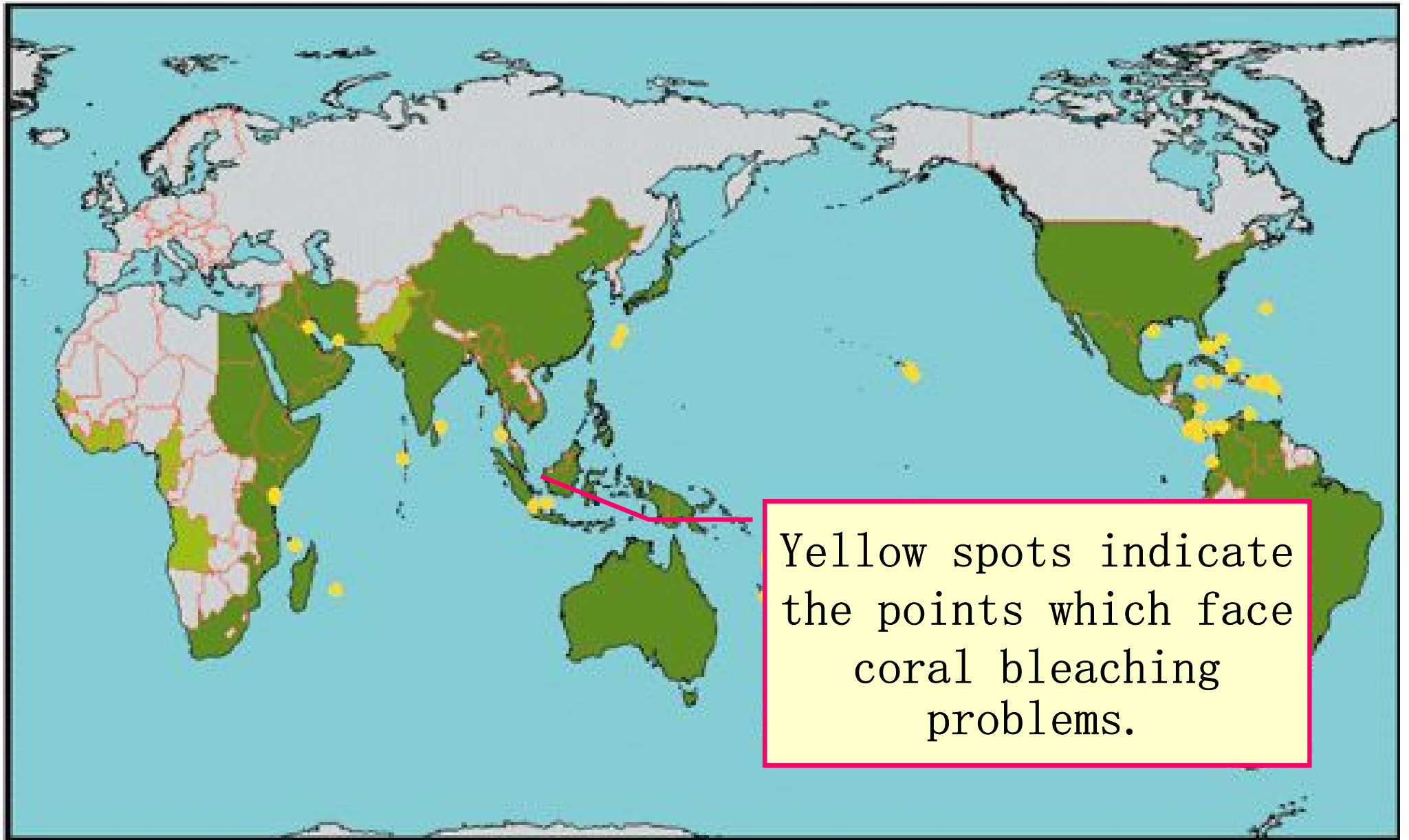


Source: J. Sheehy, IRRI

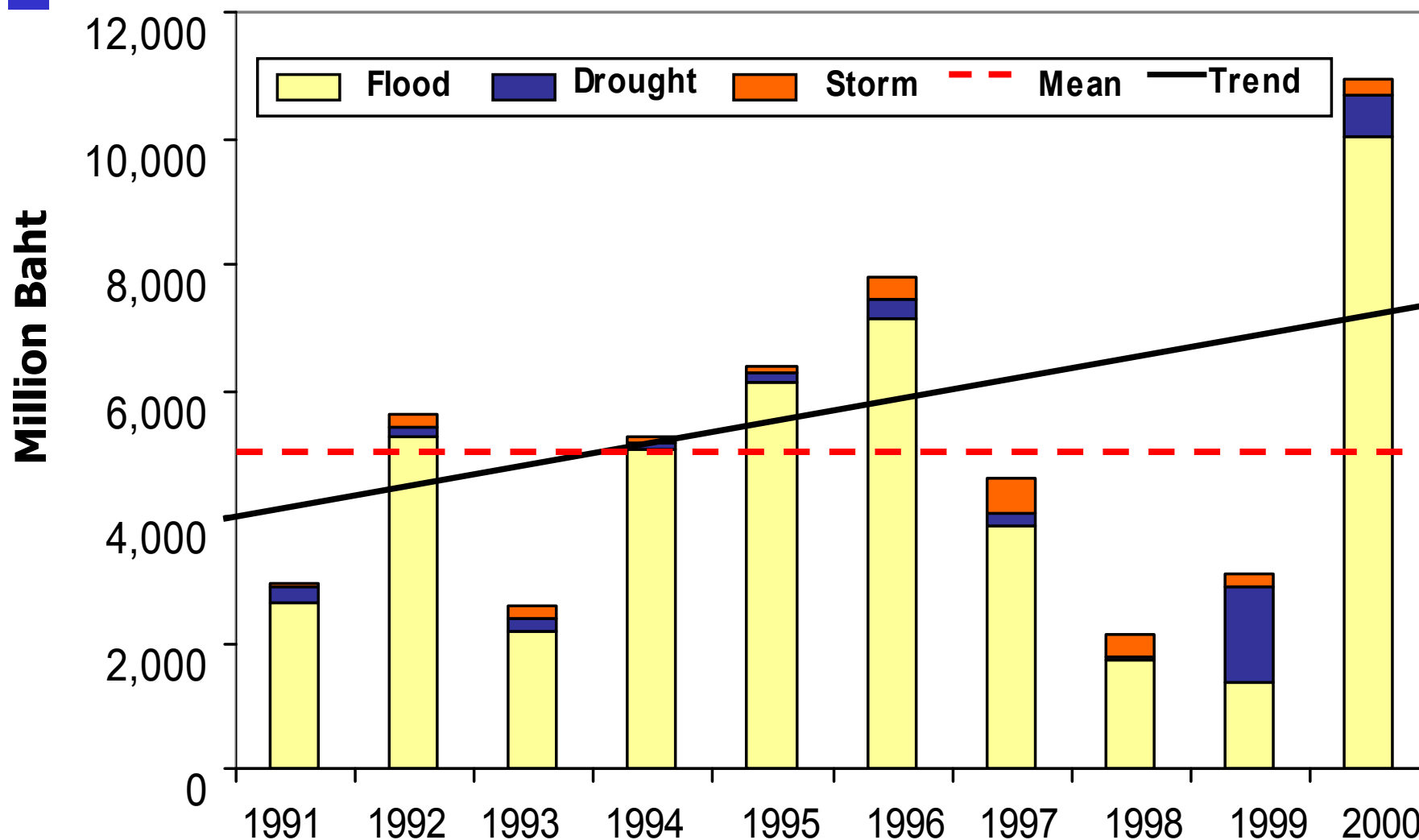
Effects of Coastal Erosion/sea level rising



Effects of Ocean Acidification



Losses of agricultural yields from climate change between 1991-2000

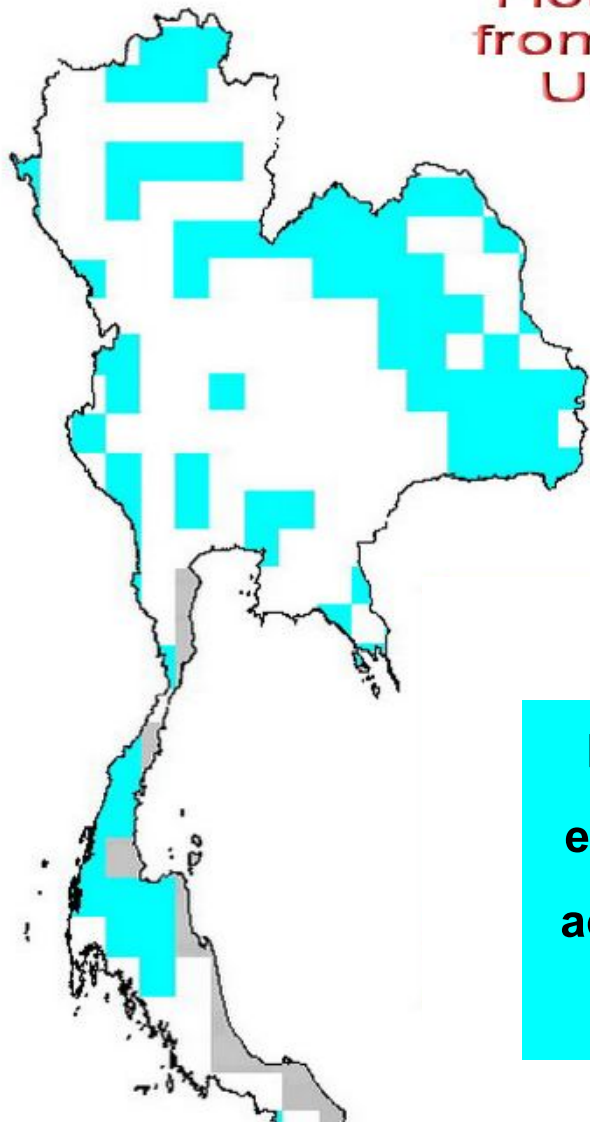


Severe storms and extreme events resulted in economics, social and environmental damages



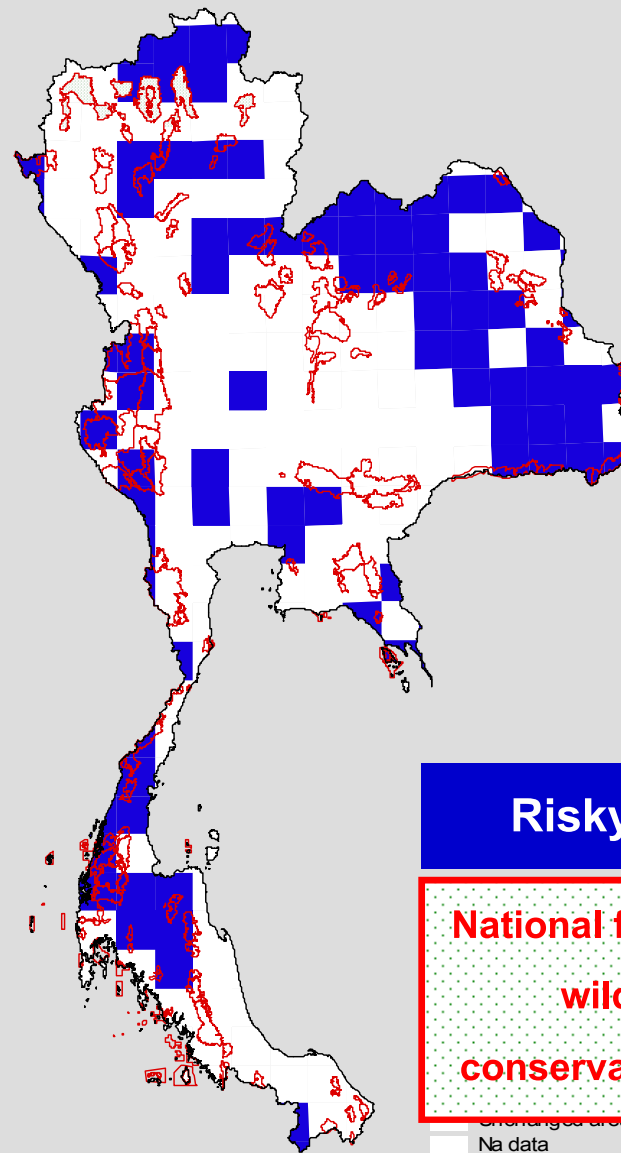
Change in forestry ecology has the effect on biodiversity. Increasing 1° C will decrease biodiversity in the percentage of 25–30

Hot spot
from GCM
UK 89



Risky area for
ecology change
according to UK
89 Model

Source: ดร. กัณฑ์รีย์ บุญประกอบ



Risky area

National forest and
wildlife
conservation park

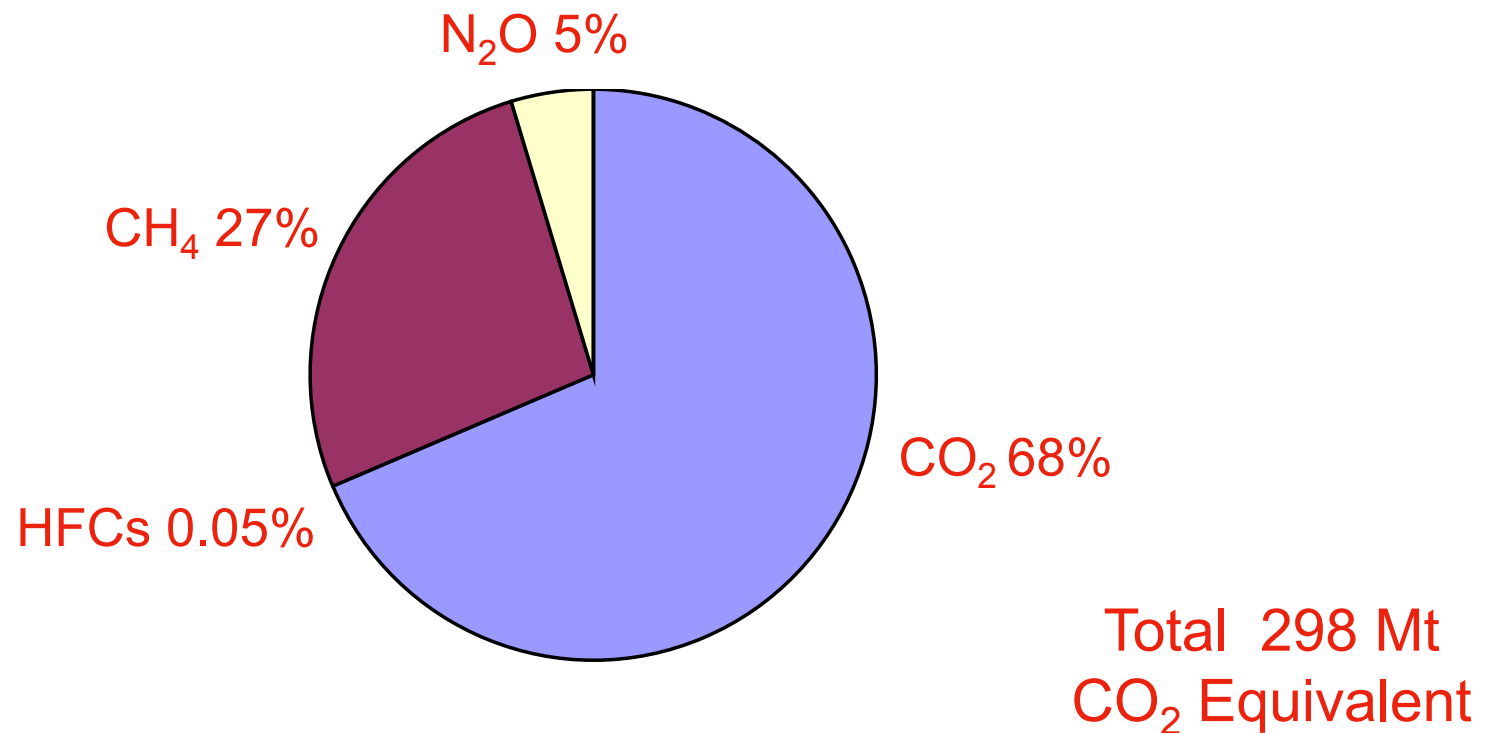
Unchanged area
No data



GHG situation in Thailand

Thailand GHG Inventory

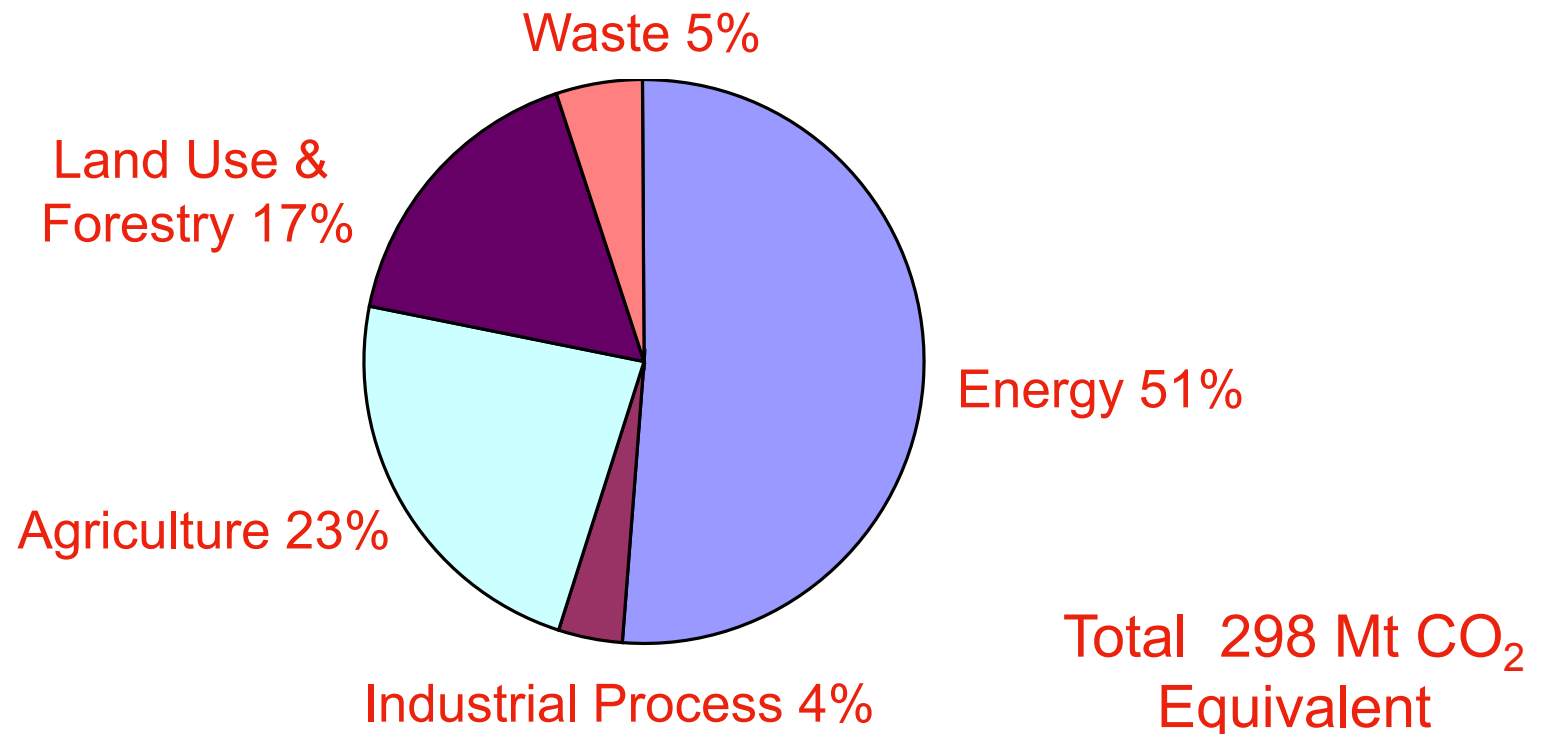
- Total Net National GHG Emissions, 1998--By Gas





Thailand GHG Inventory

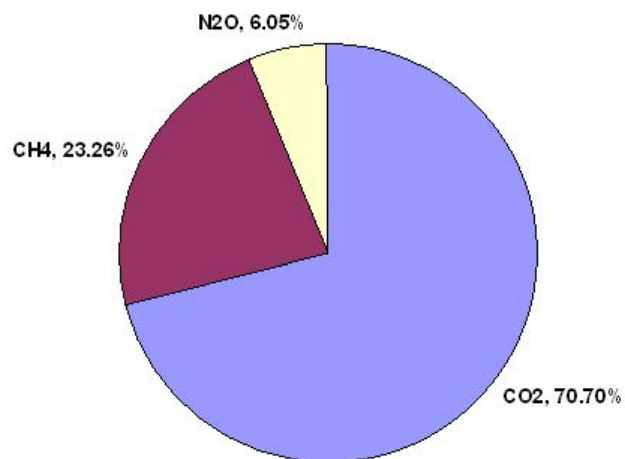
- Total Net National GHG Emissions, 1998--By Sector



Thailand GHG emissions have increased during 1994-2003

1994

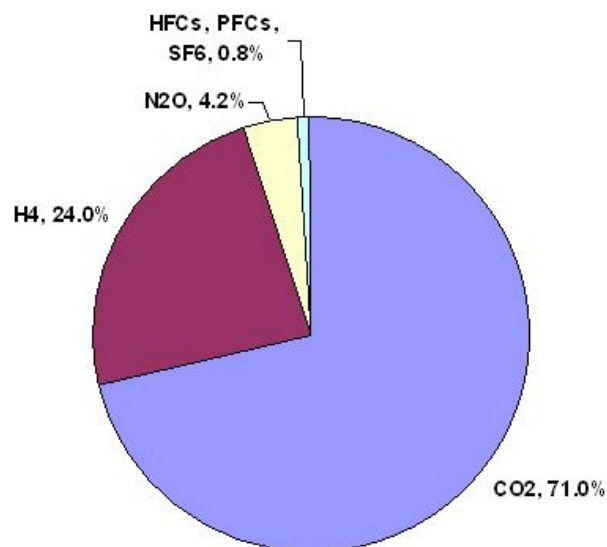
1994 Thailand's GHG Emission By Gas



Source: MONRE (1994)

2000

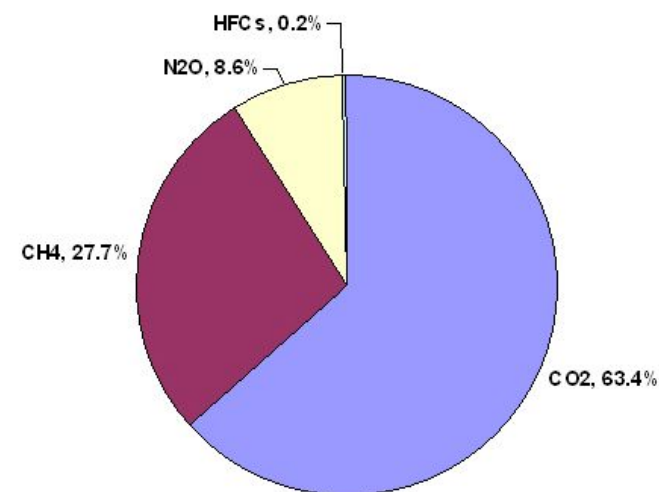
2000 Thailand's GHG Emission By Gas



Source: World Resource Institute, 2000

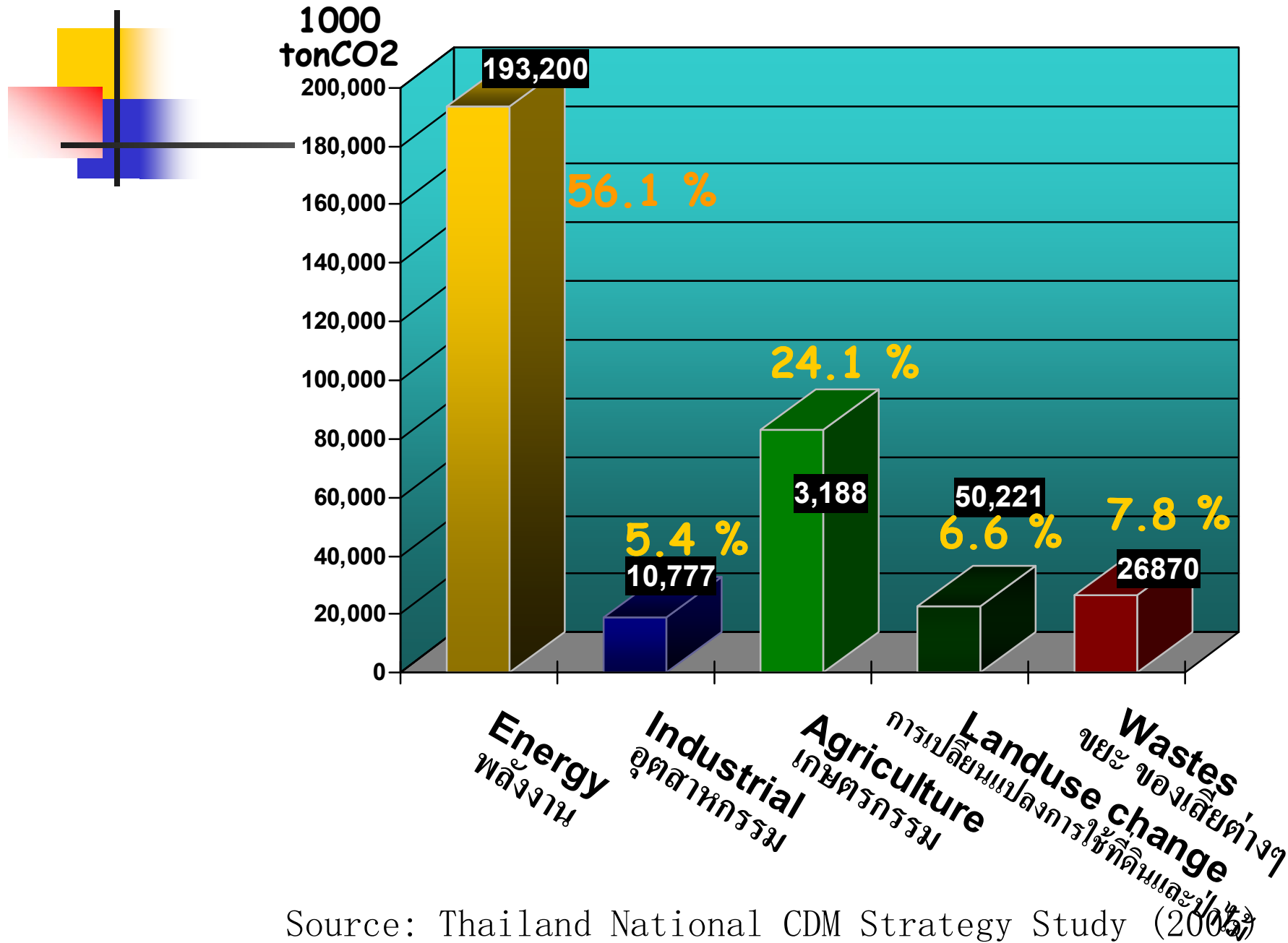
2003

2003 Thailand's GHG Emission By Gas



Source: ERM Siam (2003)

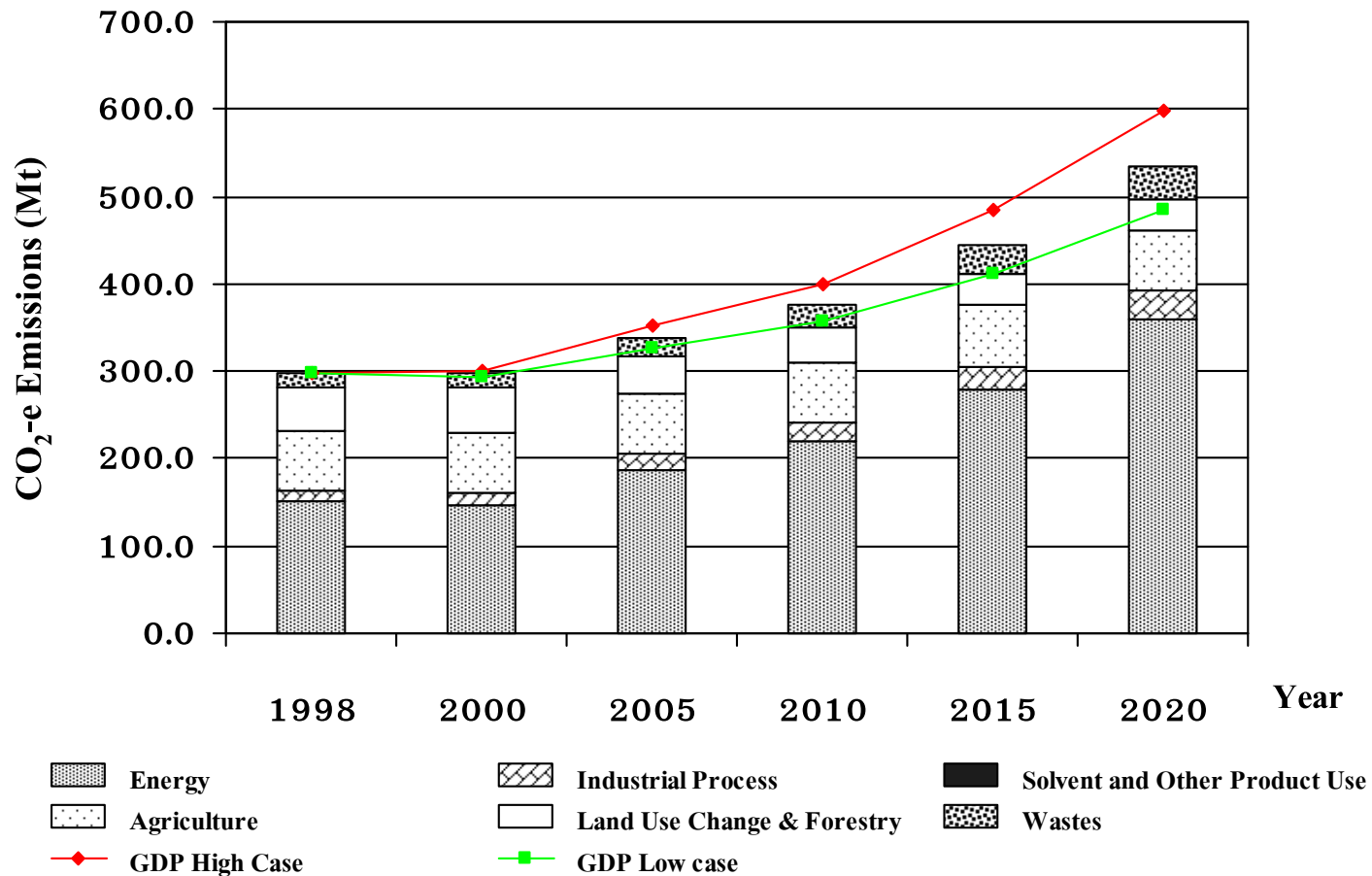
Thailand emissions by sector in 2003



Source: Thailand National CDM Strategy Study (2003)
 Note: only GHG under Kyoto protocol

Potentials of CDM Projects in Thailand

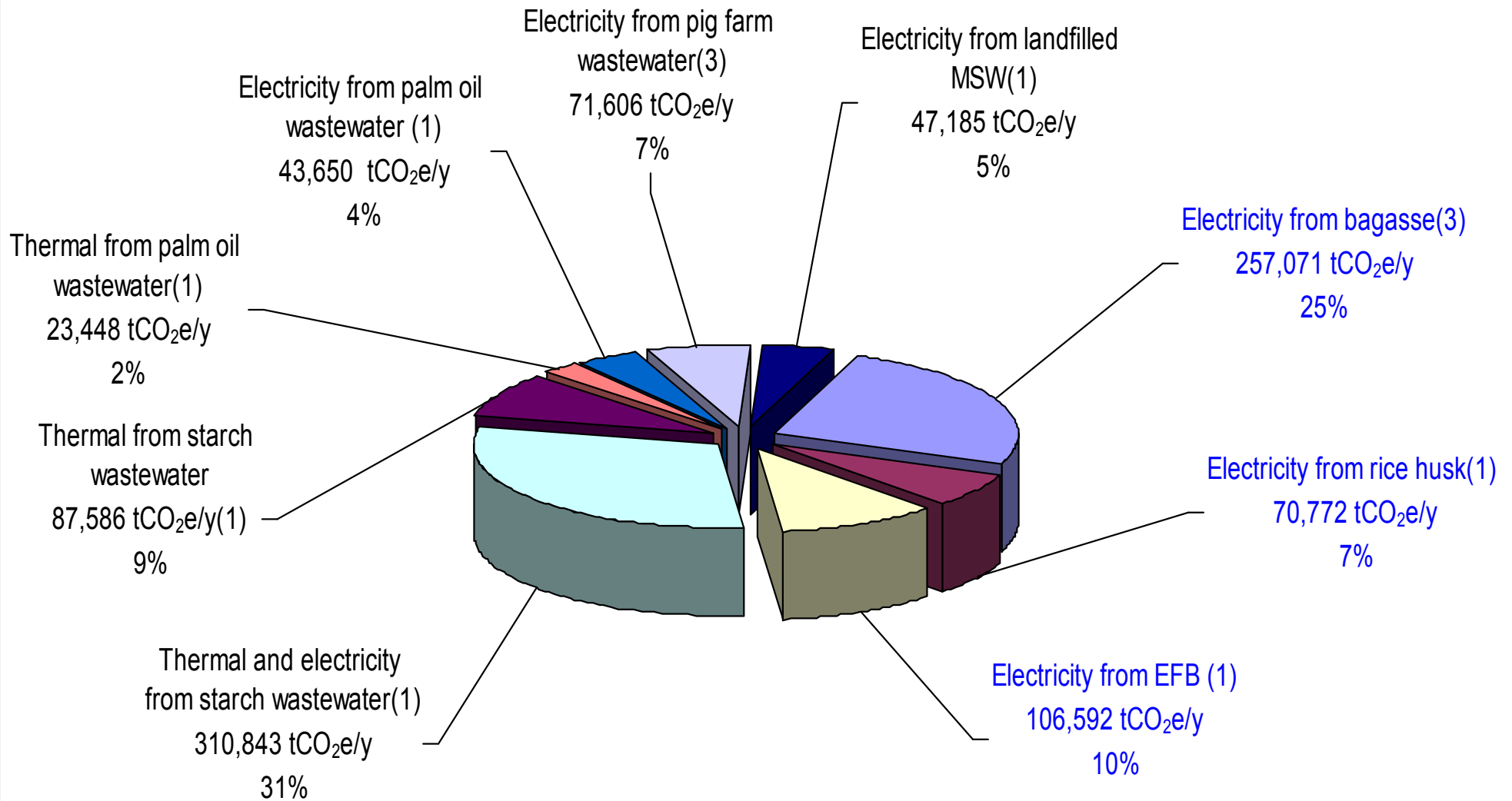
GHG projection: CO₂-equivalent 1998-2020





Potential areas of co-benefits
type of activities

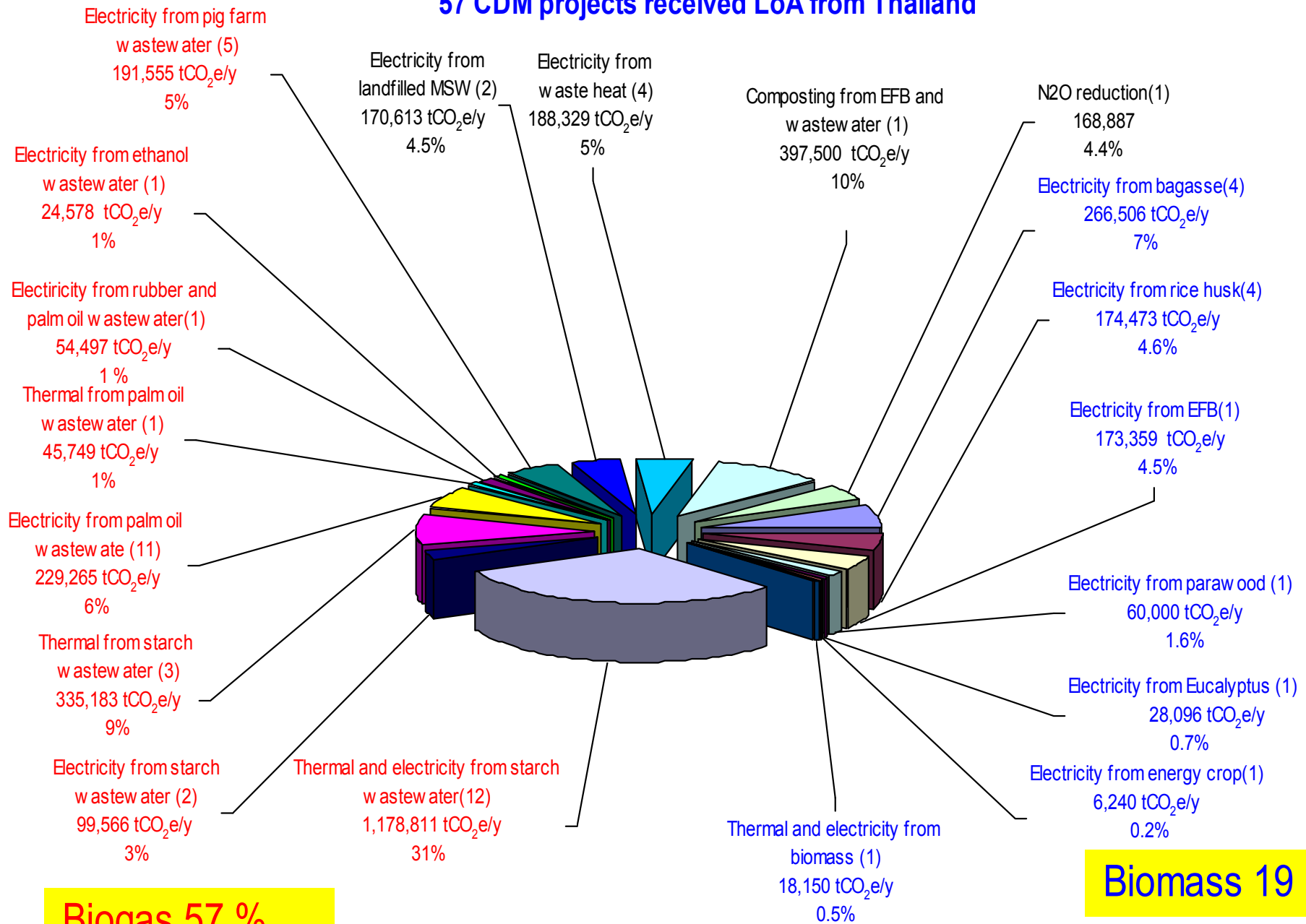
13 CDM projects registered at CDM EB



Total Emission Reduction 1.02 Million Ton CO₂e per year

As of February 10, 2009

57 CDM projects received LoA from Thailand

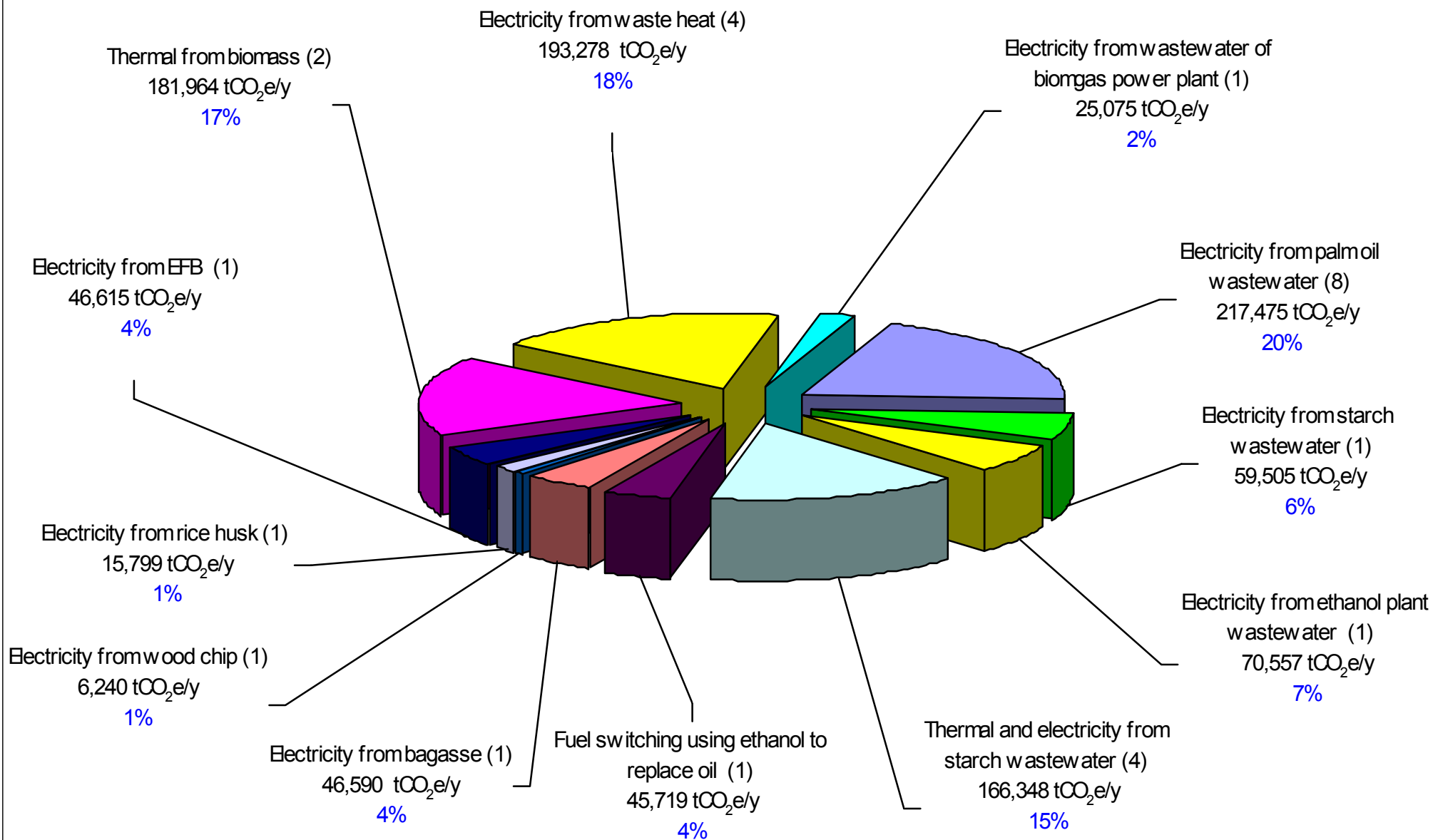


Biogas 57 %

Biomass 19 %

Total Emission Reduction 3.81 Million Ton CO₂e per year

26 CDM projects submitted for LoA



Total Emission Reduction 1.08 Million Ton CO₂e/year

as of December 28, 2008



Interesting Statistics

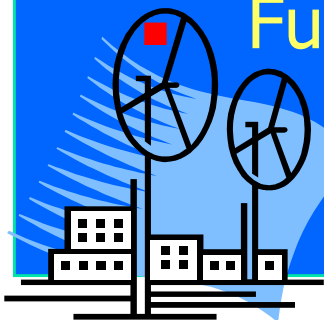
- **6 CDM projects requested for registration at CDM EB**
- **13 CDM projects registered at CDM EB**
- **57 LoA issued**
- **24 CDM projects under review for LoA**
- **94 Letter of Intent received including wind, hydro, energy efficiency, urban transportation, waste to energy etc.**
- **7 CDM projects resubmitted**

Emission Reduction projects in priority are in ENERGY SECTOR

1. Energy generating & usage

- Biomass power generation
- Renewable energy
- Energy efficiency
- Energy conservation

■ Fuel switching



2. Environment related to energy

- Waste-to-Energy i.e. waste, wastewater

3. Transportation related to energy

- Transportation efficiency improvement

4. Industrial related to energy

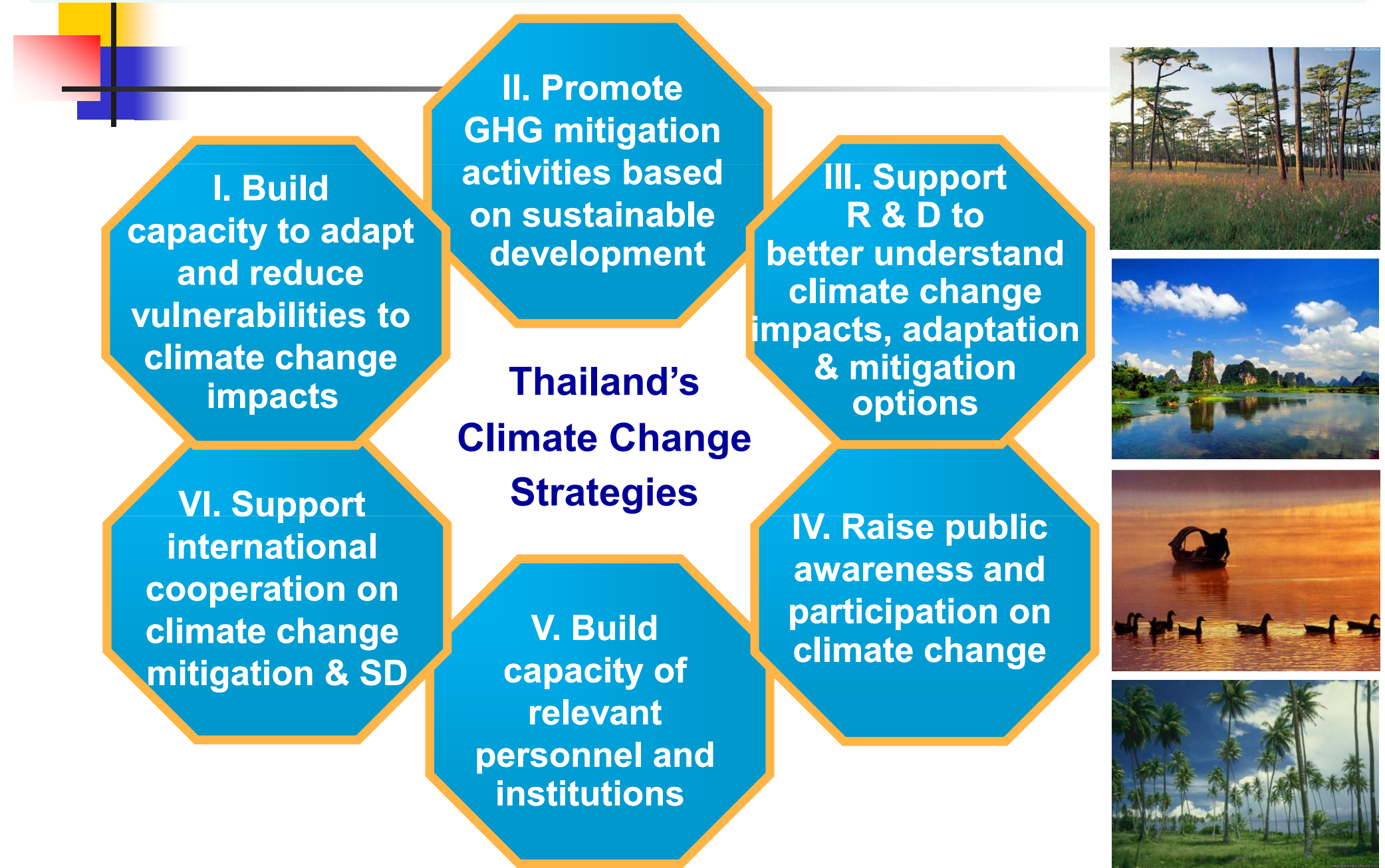
- Industrial process with GHG reduction



Supporting scheme through international cooperation

National Committee on Climate Change Policy

Climate Change Coordinating Office under the Office of Natural Resources and Environmental Policy and Planning (ONEP) as Secretariat Office



International cooperation

- **Technical Assistance**
- **Capacity Building**
- **Information Dissemination and Outreach**
- **Financial support through grant, soft loan, CERs buyer**
- **Networking**





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Thank you for your attention

