

# **CDM and Biomass Projects**

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December 4, 2008

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# 1. Outline of CDM

## The Kyoto Protocol (KP): The Kyoto Mechanisms

adopted in 1997, and entered into force in 2005

- **CDM** (Clean Development Mechanism)

Article 12

- **Jl** (Joint Implementation)

Article 6

- **ET** (Emissions Trading)

Article 17

# CDM (Clean Development Mechanism)

**Cost-effective emissions reduction mechanism**

**Host Parties**  
Non Annex Countries

**Annex I Parties**  
Japan



GHG emission reductions project



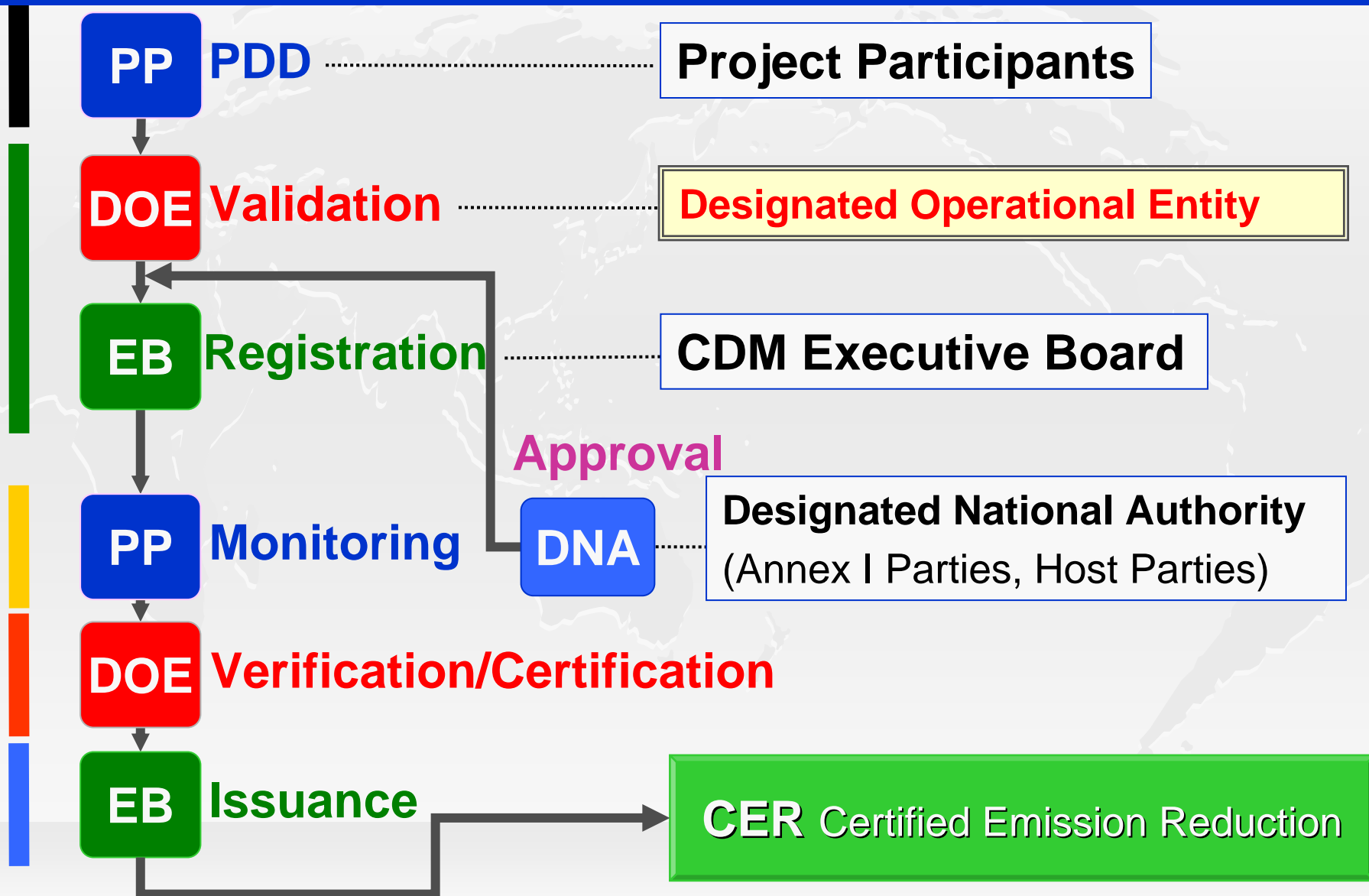
Achieve emission reduction targets as defined in the Protocol

**Sustainable Development**

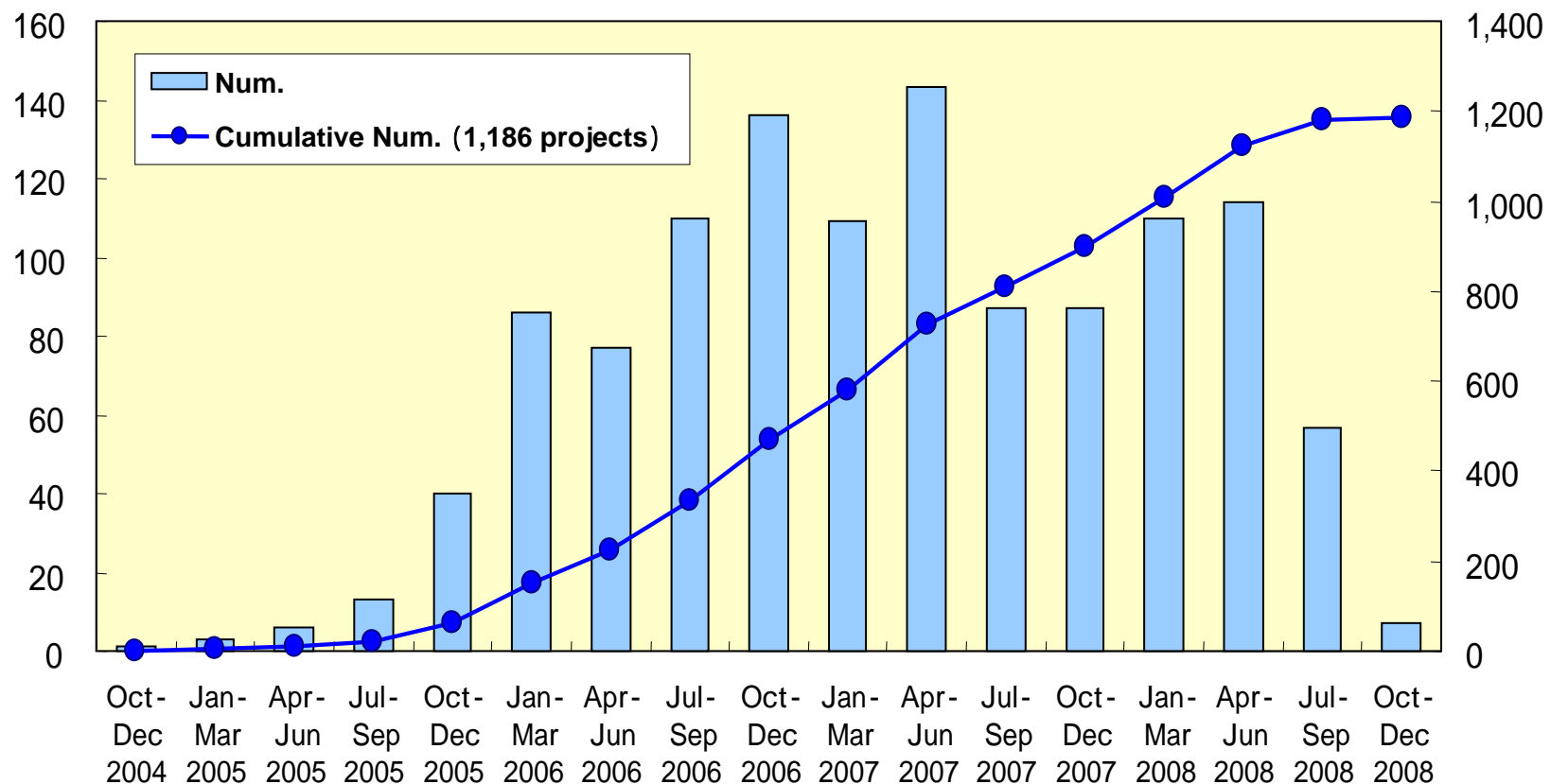


**Use of CER**

# CDM Project Activity Flow

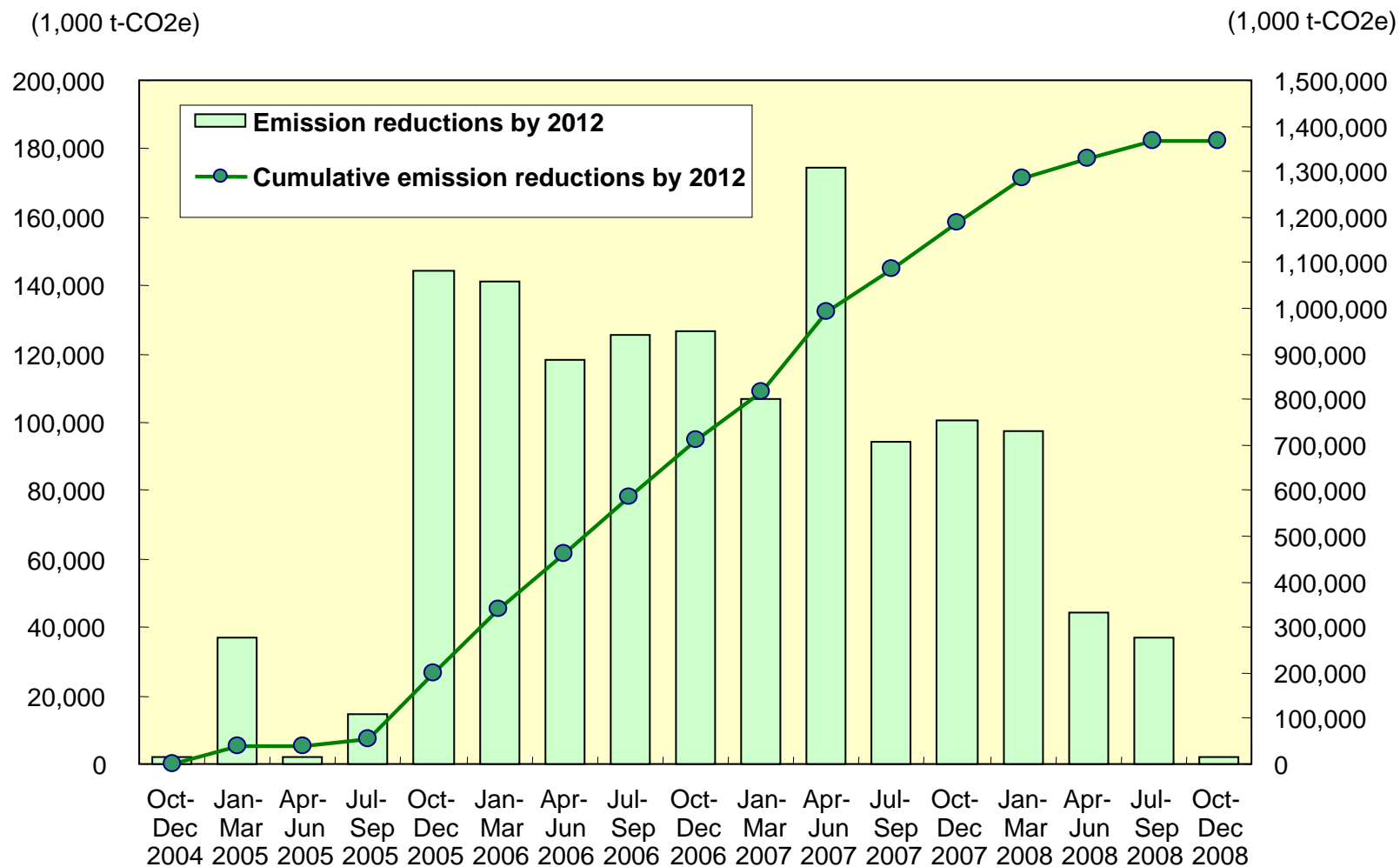


# Number of registered CDM Projects (as of Oct. 22, 2008)



Source: IGES "CDM Project Data Analysis"

# Emission reductions from CDM Project Activities by 2012 (as of Oct. 22, 2008)



Source: IGES "CDM Project Data Analysis"

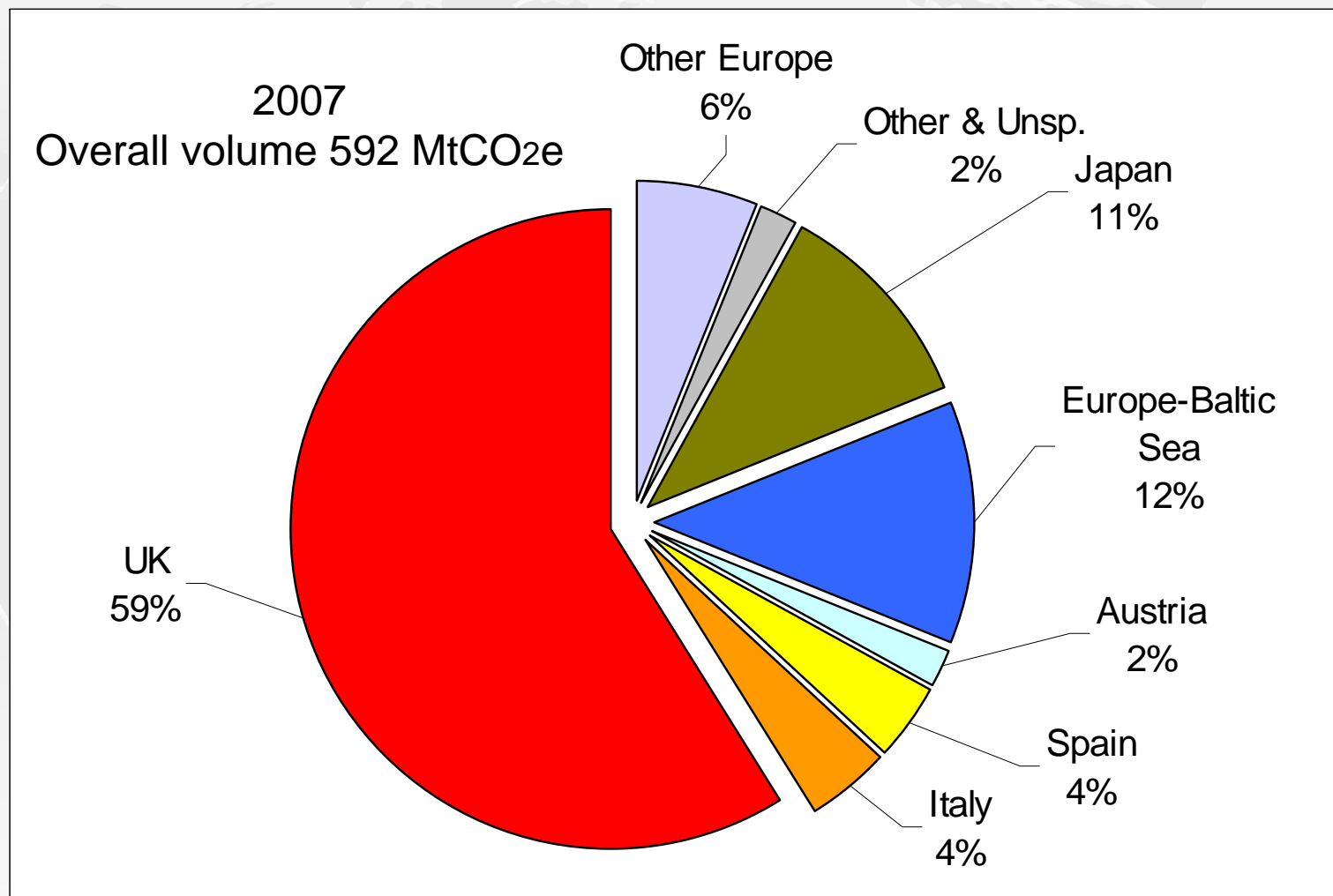
## Carbon Market at a Glance, Volumes & Values in 2006-07

	2006		2007	
	Volume (MtCO <sub>2</sub> e)	Value (MUS\$)	Volume (MtCO <sub>2</sub> e)	Value (MUS\$)
<b>Allowances</b>				
EU ETS	1,104	24,436	2,061	50,097
New South Wales	20	225	25	224
CCX	10	38	23	72
<b>Sub total</b>	<b>1,134</b>	<b>24,699</b>	<b>2,109</b>	<b>50,394</b>
<b>Project-based transactions</b>				
Primary CDM	537	5,804	551	7,426
Secondary CDM	25	445	240	5,451
JI	16	141	41	499
Others	33	146	42	265
<b>Sub total</b>	<b>611</b>	<b>6,536</b>	<b>874</b>	<b>13,641</b>
<b>TOTAL</b>	<b>1,745</b>	<b>31,235</b>	<b>2,983</b>	<b>64,035</b>

M: million.

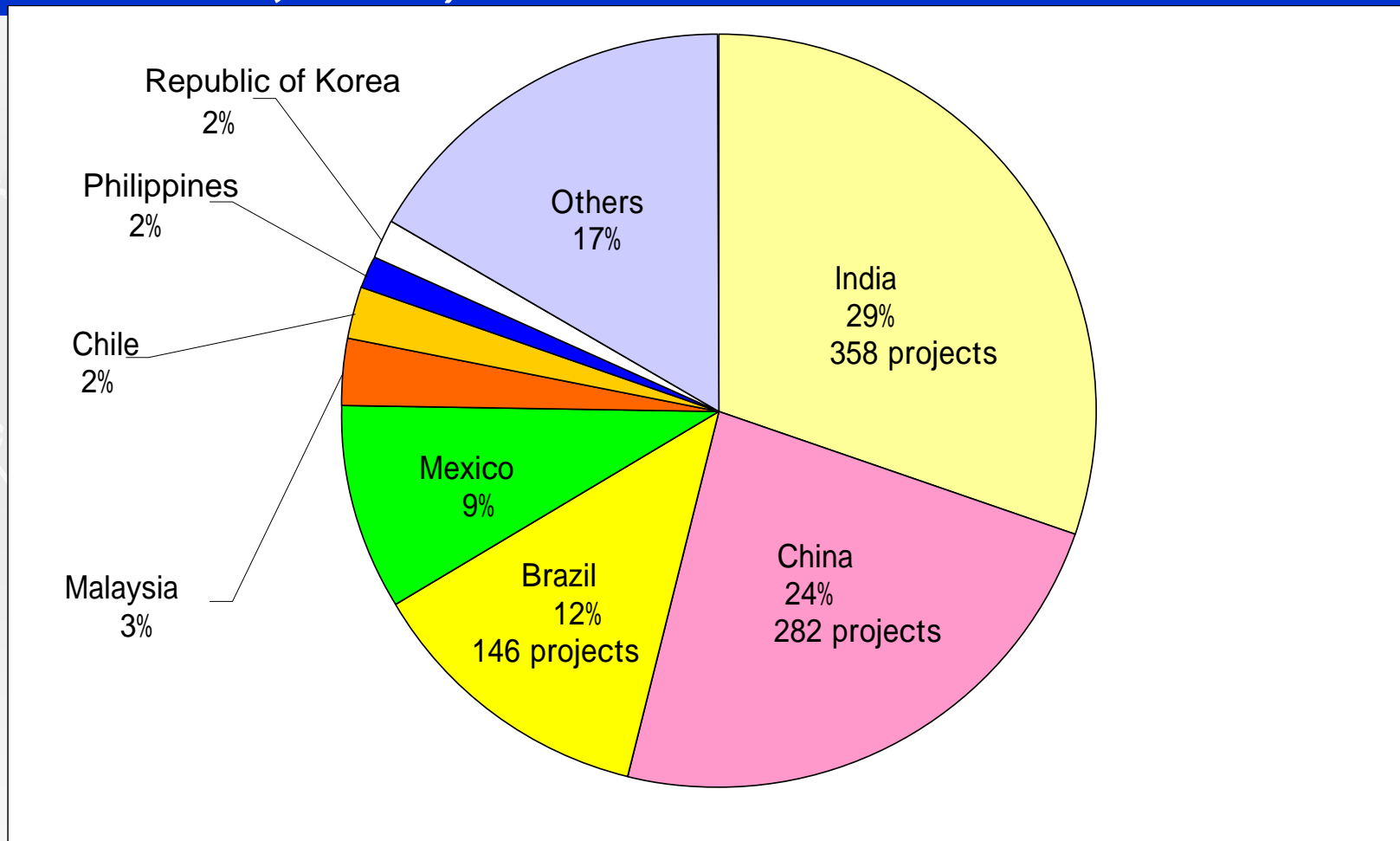
Source: The World Bank "State and Trends of the Carbon Market 2008"

# Primary CDM&JI Buyers (as shares of volumes purchased, vintages up to 2012)



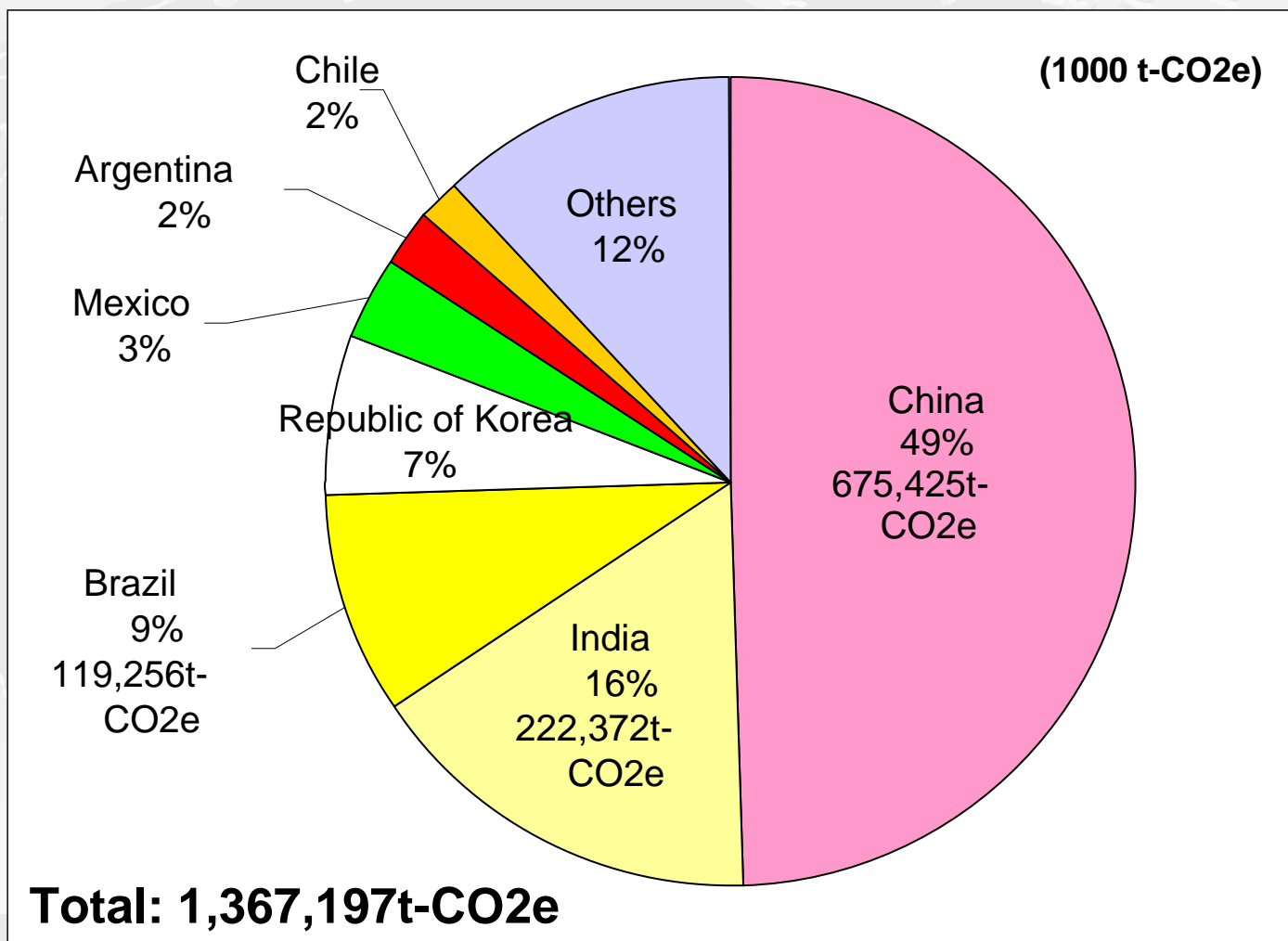
Source: The World Bank "State and Trends of the Carbon Market 2008"

# Registered project activities by host parties (as of Oct. 22, 2008)



Source: IGES "CDM Project Data Analysis"

# Expected emission reductions from registered projects by host party by 2012 (as of Oct. 22, 2008)

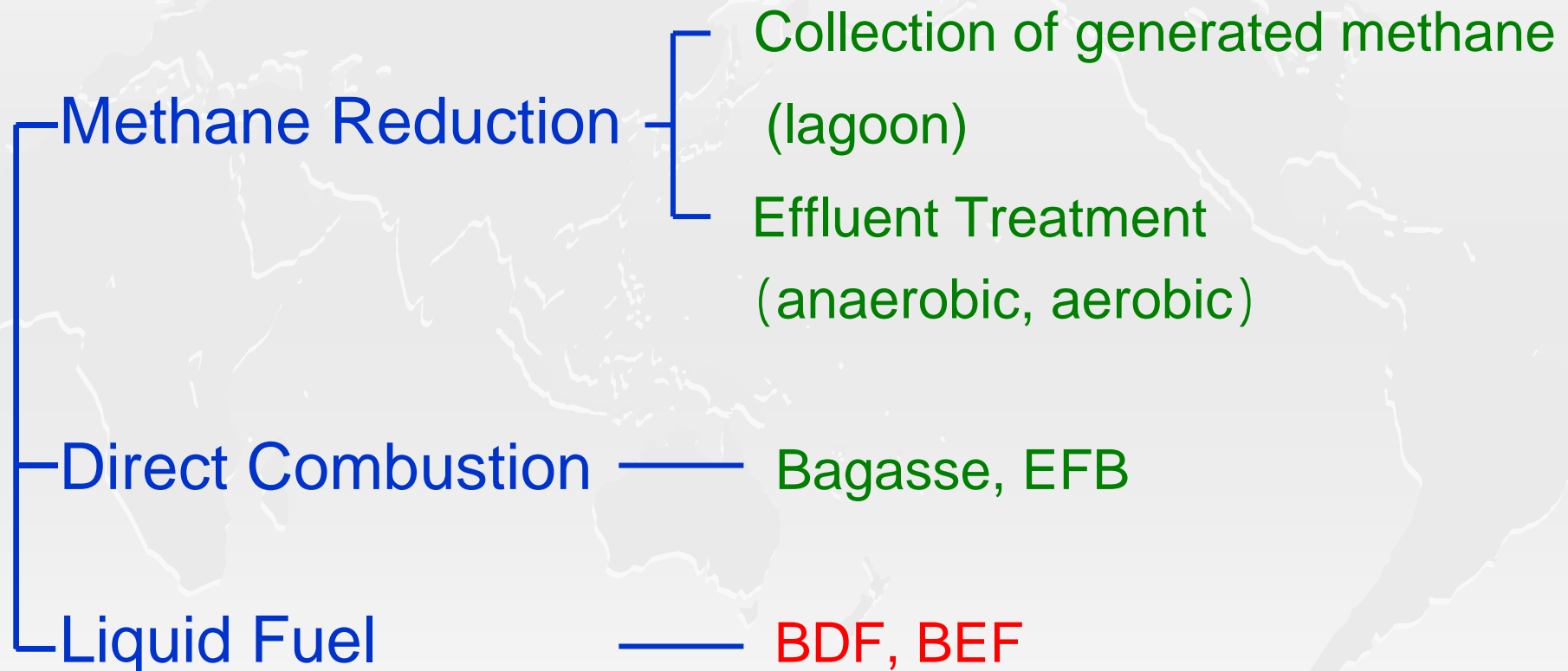


Source: IGES "CDM Project Data Analysis"

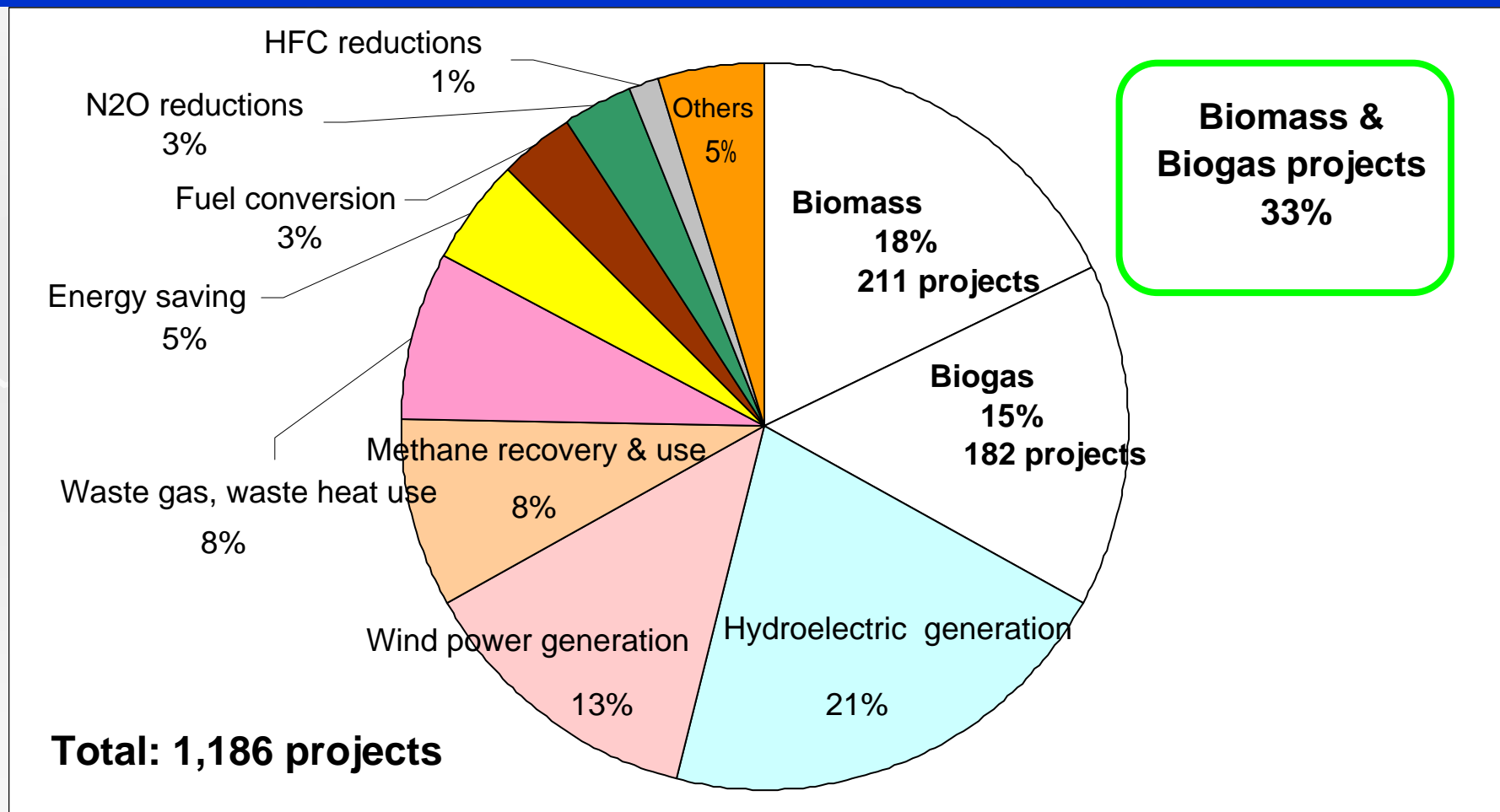
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## **2. Biomass Projects in CDM**

# Types of Biomass Projects

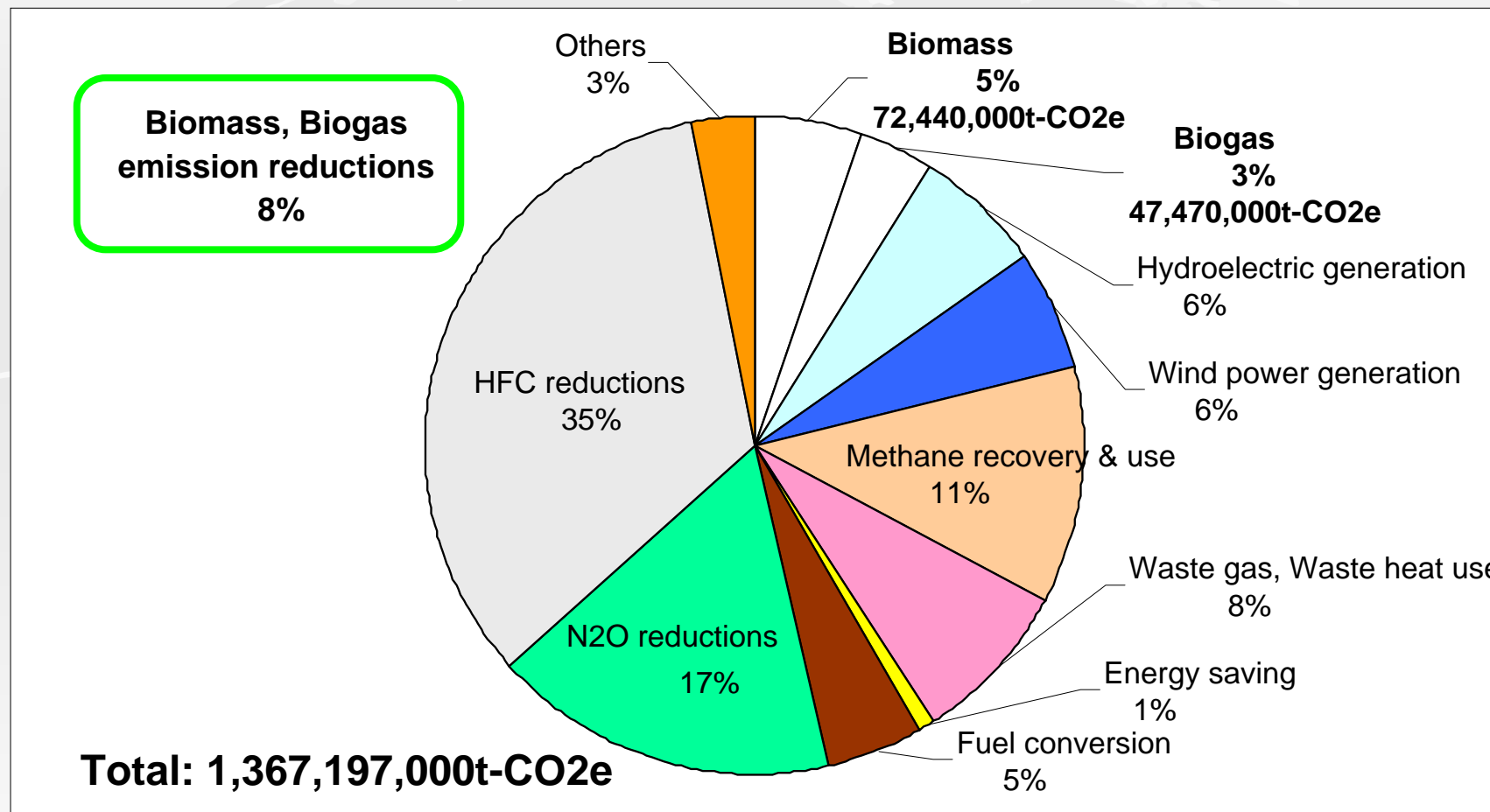


# Registered project activities by project types (as of Oct. 22, 2008)



Source: IGES "CDM Project Data Analysis"

# Expected emission reductions by 2012 (as of Oct. 22, 2008)



Source: IGES "CDM Project Data Analysis"

# Biomass project activity in Philippines

<b>Project Title</b>	<b>Wastewater treatment using a Thermophilic Anaerobic Digester at an ethanol plant</b>
<b>Ref. No. and Registration Date</b>	No. 0504    Oct., 1, 2006
<b>Host Party</b>	Philippines
<b>Location</b>	Luzon Batangas
<b>Summary</b>	The proposed project involves the incorporation of a Digester into the anaerobic lagoon wastewater treatment system at ethanol plant. Approximately 780,000 L/day of wastewater generated from the ethanol plant are treated by the anaerobic lagoon system, and a large amount of methane are emitted from the lagoon into the atmosphere. Installing a Digester with biogas collection equipment, however, will result in the avoidance of a large amount of ethane gas emission to the atmosphere. Furthermore, biogas collected from the Digester will be utilized as a fuel source for the ethanol plant's boilers.
<b>Amount of CO2 reductions</b>	95,896t-CO2/y
<b>Sectoral Scope</b>	13. Waste handling and disposal
<b>Project Participants (Philippines)</b>	Tanduay Distillers, Inc. Absolut Chemicals, Inc.
<b>Project Participant (Japan)</b>	Mitsubishi Corporation

# Diagram of the Project wastewater treatment system

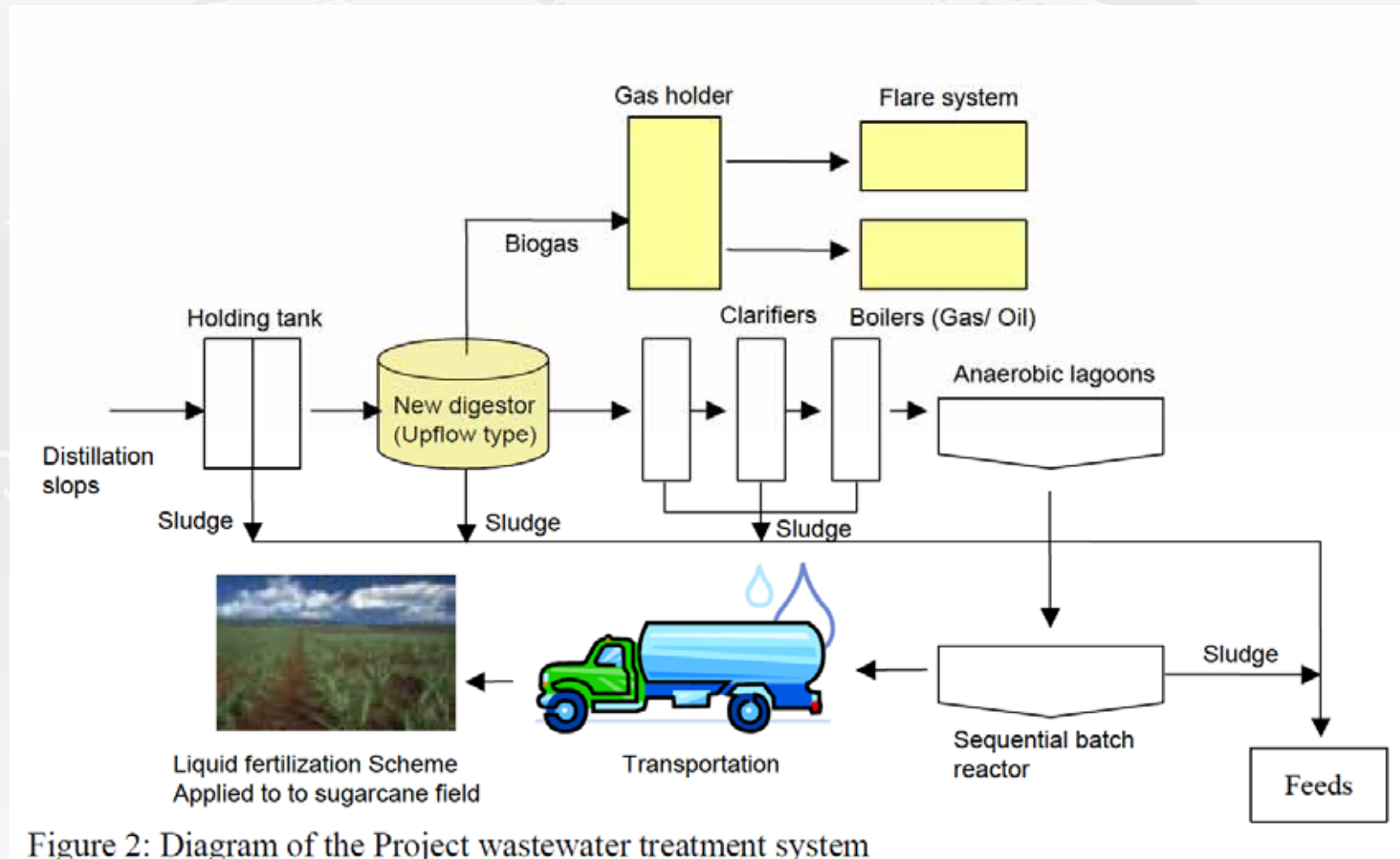


Figure 2: Diagram of the Project wastewater treatment system

Source: PDD for Project 0504 “Wastewater treatment using a Thermophilic Anaerobic Digester at an ethanol plant in the Philippines”

# Existing anaerobic lagoon



Source: PDD for Project 0504 "Wastewater treatment using a Thermophilic Anaerobic Digester at an ethanol plant in the Philippines"

# Biomass project in Malaysia

<b>Project Title</b>	<b>Sahabat Empty Fruit Bunch Biomass Project</b>
<b>Ref. No. and Registration Date</b>	NO.0288      April 23, 2006
<b>Host Party</b>	Malaysia
<b>Location</b>	The state of Sabah
<b>Summary</b>	Currently oil palm mills in Sahabat have disposal problems due to the approximately 500,000-ton oil palm Empty Fruit Bunches (EFB), generated each year from their oil palm milling activities. On many sites the EFB has to be mulched or composted. The project involves the construction of a 7.5 MW turbine generator to enable the use of the waste EFB for electricity and steam generation.
<b>Amount of CO2 reductions</b>	53,986t-CO2/y
<b>Sectoral Scope</b>	1 Energy industries
<b>Project Participants (Malaysia)</b>	Felda Palm Industries Sdn. Bhd.
<b>Project Participant (Great Britain)</b>	EcoSecurities Ltd.

# Oil Palm Fresh Fruit Bunches (FFB)



Source: PDD for project 0288 "Sahabat Empty Fruit Bunch Biomass Project"

# Stockpiled Empty Fruit Bunches (EFB)



Source: PDD for project 0288 "Sahabat Empty Fruit Bunch Biomass Project"

## 3. Problems and Conclusion

1. Securing raw materials, such as EFB, Rice husk, etc., has become more difficult
2. Use of biofuels is not fully realized due to some restrictions
3. Tightening of assessment of project registration by CDM Executive Board
4. Uncertainty over future CDM related system after 2013(after Kyoto)

## Conclusion:

We recognize many problems for Biomass projects lie ahead of us.

But Biomass is one of the most effective technologies for Climate Change Problems.

It is expected that the Clean Development Mechanism will further push forward the implementation of Biomass project activities.

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