

REGIONAL CDM UPDATE : Selected ASEAN Country

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Indonesia

INDONESIA	THAILAND
<p><i>Convention</i> Signed the UNFCCC in June 1992 Ratified in August 1994</p>	<p><i>Convention</i> Signed the UNFCCC in June 1992 Ratified in December 1994</p>
<p><i>Kyoto Protocol</i> Signed in 1998 Ratified in July 2004</p>	<p><i>Kyoto Protocol</i> Signed in February 1999 Ratified in August 2002</p>
<p><i>Climate Change Policy</i></p> <ul style="list-style-type: none"> ➤ no specific policy on climate change has been issued; ➤ however, the national development plan for short, medium and long term have put climate change as one of important issues with special emphasize on CDM as an innovative environmental financial mechanism and on adaptation strategy to the impact of climate change in related sectors 	<p><i>Climate Change Policy</i> Cabinet Resolution on 10 September 2002</p> <ul style="list-style-type: none"> ➤ the government is aware of the climate change problems; ➤ the government will support the projects which will contribute to the GHGs emission reduction; and ➤ Each CDM project must be submitted to the cabinet for final approval

INDONESIA

Designated National Authority

Minister of Environment Decree no. 206/2005

- Komisi Nasional Mekanisme Pembangunan Bersih (KN-MPB)
- Structure, members, mechanisms as well as the criteria and indicator of sustainability for CDM projects in Indonesia;
- Deputy for Natural Resources Conservation & Environmental Degradation Management (MoE) is the Chairperson
- The Climate Unit of the Ministry of Environment is functioning as the Secretariat

THAILAND

Designated National Authority

Cabinet Resolution on 1 July 2003

- The National Committee on Climate Change chaired by Minister of Natural Resources and Environment (MONRE)
- The National CDM Steering Committee chaired by Permanent Secretary of MONRE
- Appointed MONRE to be DNA CDM

INDONESIA

Main activities and sectors in CDM:

- Energy conservation;
- Clean energy technology utilization;
- Renewable energy;
- GHG friendly agriculture and husbandry practices;
- Sustainable waste management;
- GHG mitigation in industries and transportation sectors;
- LULUCF related activities.

- Revisiting the production share contract of oil and gas companies in Indonesia to accommodate by-side products such as CERs. Such revision is needed especially to facilitate CDM projects in gas-flare reduction;
- Reviewing the policy on power purchase agreement (PPA) for IPPs in Indonesia, including the annual price negotiation;

THAILAND

Main activities and sectors in CDM:

- Biomass, Biogas, Solar, Wind, Biofuels;
- Fuel Switching i.e. Oil to NG (such as CNG, Gas-fired PP.), Oil to Biofuel;
- Production process improvement;
- Boiler improvement;
- Combustion efficiency improvement;
- Waste to energy i.e. LFG

Methodology used in CDM Projects - Thailand

No.	Methodology number	Methodology Title	Number of projects	Methodology
1.	AMS-I.C	Thermal energy for the user	1	Simplified
2.	AMS-I.D	Renewable electricity generation for a grid	2	Simplified
3.	AMS-III.D	Methane Recovery	1	Simplified
4.	AMS-III.E	Avoidance of methane production from biomass decay through controlled combustion	1	Simplified
5.	ACM0001	Consolidated methodology for landfill gas project activities. (The additionality of the project activity shall be demonstrated and assessed using the tool for the demonstration and assessment of additionality)	1	Consolidated
6.	ACM0006	Consolidated methodology for grid connected electricity generation from biomass residues	3	Consolidated
7.	AM0004	Grid-connected biomass power generation that avoids uncontrolled burning of biomass	1	Large Scale Improve
8.	AM00013	Forced methane extraction from organic wastewater treatment plants for grid-connected electricity supply	5	Large Scale Improve
9.	AM0022	Avoided wastewater and on-site energy use emissions in the industrial sector	4	Large Scale Improve

Application of approved methodologies (1) - Indonesia

- Cement sector
 - Indocement alternative fuel project: ACM0003
 - Indocement blended cement project:
ACM0005

Application of approved methodologies (2)- Indonesia

- Small scale renewable energy connected to the Grid: Application of AMS I.D
 - √ MNA Biomass 9.7 MWe Condensing Steam Turbine
 - √ Lampung rice husks 3 MWe
 - √ Hydropower projec, Kerinci
 - √ Ricehusk power plant (3MW) in Perbaungan, North Sumatra
 - √ Boiler installation with Palm Oil Biomass Waste Fuel and Coal in Kayu Aro Tea Manufacturing
 - √ Kota Pinang 5 MW Biomass Power Plant
 - √ Siak Hulu 5 MW Biomass Power Plant

Application of approved methodologies (3)- Indonesia

- Small scale renewable energy: Electrical energy generation by the user, mechanical energy for the user, and thermal energy for the user
 - √ Utilization of Combined Solar, Wind and Biomass for a Small Agro-Processing Unit (AMS I.B and AMS I.C)
 - √ Solar cooker in Aceh (AMS. I.C)

Application of approved methodologies (4)- Indonesia

- Methane avoidance from wastewater/sludge (1)
 - √ Possibility of application of: ACM 0013, AM0006, AM0016, AM0022
 - √ Difference of applicability of ACM0013 and AM002 is distinguish by applicability to export energy to the grid. Both methodologies can be applied in a project where advanced anaerobic treatment system is used in an existing lagoon based wastewater treatment

Application of approved methodologies (5)- Indonesia

- Methane avoidance from wastewater/sludge (2): Application of AM0006, AM 0013 and AM0022

**In some cases, it is combined with AMS ID or ACM0002
(renewable energy exported to the grid)**

- ✓ Methane Capture and Combustion from Swine Manure Treatment Project at PT. Indotirta Suaka Bulan Farm in Indonesia
- ✓ Methane capture in tapioca industry, Lampung
- ✓ Methane capture of POM Effluent for power generation (0.7MW) in Sei Daun Palm oil waste power plant in Riau
- ✓ Anaerobic Digestion Swine Manure (JAPFA)
- ✓ Methane Recovery Project at PT. Inti Indo Sawit Subur Buatan I in Riau, Indonesia
- ✓ Methane Recovery and Power Generation Project in Riau, Indonesia
- ✓ Methane Recovery Project at PT. Sinar Siak Dian Permai in Riau, Indonesia

Application of Approved Methodology (6)- Indonesia

- Methane avoidance from Municipal Solid Waste Treatment (1)
 - √ Consolidated methodology for landfill gas project activities: ACM 0001
 - √ Landfill gas capture and flaring: AM0002
 - √ Landfill gas capture and electricity generation: AM0010, AM0011
 - √ Biomethanation: AM0012
 - √ Composting: AM0025
 - √ Small scale MSW: AMS III.F, AMS III.G

Application of Approved Methodology (7)- Indonesia

- Methane avoidance from Municipal Solid Waste Treatment (2)
 - ✓ Bantar Gebang Landfill: ACM0001, AM0002
 - ✓ Municipal waste to energy (3MW) in Supit Urang, Malang: AMS III. G and AMS I.D
 - ✓ Municipal waste-to-energy in Surabaya: ACM 0001, AM0010, AM0011
 - ✓ Waste to energy through incineration (13MW) in Malang: AMS III. G, AMS I D
 - ✓ Waste to energy through incineration, Jakarta: AMS III. G, AMS I D
 - ✓ Emission Reduction in Landfill in Bekasi: ACM0001, AM0002

Application of Approved Methodology (8)- Indonesia

- Renewable energy connected to the grid,
Large scale (ACM 0002)
 - √ Dieng and Patuha
 - √ Sarulla
 - √ Darajat Geothermal project
 - √ Other geothermal projects
 - √ Hydropower projects (Asahan, Poso
Hydropower plant)

Trends in CDM Projects

- In Thailand, the trend is more on biogas projects and biomass related projects.
- In Indonesia, a number of projects in the pipeline are:
 - Methane avoidance
 - Small scale renewable energy connected to grid
 - Renewable energy connected to grid
- The forces behind this are:
 - The CERs from methane related CDM project is much higher than from CO₂;
 - Indonesia has electricity crisis → the government encourage more participation in generating electricity especially those based on renewable energy resources;
 - International oil price → too expensive to have oil-based power generators, and doesn't seem to be reducing significantly. Therefore renewable based, including biomass and biogas, becoming more interesting

Transaction costs

■ Indonesian Experience

Development of Baseline and PDD with approved methodology, including monitoring and verification protocol	10,000-30,000
New Methodology	10,000-15000
New methodology, large scale project (ER > 100,000/year)	30,000
Stakeholder Consultation	5,000
Validation of PDD	15000-25,000
First and Second Verification	15,000
Transaction Negotiation and Contracts	5,000-15000
Registration costs to CDM Executive Board	5,000-15000
Share of proceed	0.2/t of CO ₂ e

Impact of CDM to national policies and regulations (1)

- CDM may act as additional force to create a more transparent regulations and clear guidelines on how to obtain PPA:
 - Many project developers intending to export electricity to the grid from renewable energy resources and would like to obtain benefits from CDM are somewhat discourage because:
 - √ CDM credit buyers only interested to projects that already have power purchase agreement (PPA) with PLN
 - √ There is no transparent guideline on how much time and cost that would be required to negotiate PPA with PLN

Impact of CDM to national policies and regulations (2)

- However, CDM may also discourage development of policy and regulations in other areas, e.g:
 - √ To be additional, a CDM project must not be a common practice and “business-as-usual” project
 - √ If a certain technology which reduces GHG emissions becomes an obligation and/or obtain other type of incentives to be implemented, this technology would be a “business-as-usual” practices and cannot get incentives from CDM
 - √ This would further discourage development of incentives/regulations for this technology

Impact of CDM to national policies and regulations (3)

CDM reinforce related agencies to gather and publish a national emission factor for the country

- Development of emission factor for Java-Madura-Bali (JAMALI) Grid Emission, in Indonesia which will be published officially soon

Reviews and evaluation are still needed for the existing policies in Indonesia:

- ~ Policies on authority to give permit to LULUCF related activities. The current decentralization in Indonesia has resulted in overlapping of authority to issue permits among local, provincial and central governments;
- ~ Energy development policies. More thought needed for future energy sector. The trends to have more coal-based power generation –with more economic consideration than environmental one-- need to be balanced with the development of clean and renewable energy resources;
- ~ Banking and loan policies → to give very soft loan to CDM activities;
- ~ Taxes → to get tax holidays and exceptions

Impact of CDM to national policies and regulations (4)

- The impact of CDM on policy development can be improved if the decision for sectoral CDM and CDM activities to support national policies to be implemented properly. If this happen, there is a big probability to develop more policies towards a more sustainable development path;
- The need for emission factor of the national electricity grid as well as the regional one (for example for ACM0002 and ACM0006) will give pressure to officially publish it;

Thank You