

CDM: A Perspective from a Project Developer

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CaFiS

carbon finance solutions

- Environmental consultancy specializing in originating & developing CDM projects
 - CDM advisory
 - CDM documentation
- Team behind CD4CDM (Capacity Development for CDM) Philippines, 2002-2005



Contents

1. Updates on CDM in the Philippines
2. Lessons learned
3. Recommendations for moving CDM forward

1. Updates on CDM Philippines





CDM Philippines: A snapshot

- Applications for National Approval 24
 - 1 Wind 57,000 tCO₂e/year
 - 19 Pig-waste 110,730 tCO₂e/year
 - Range: 1,420 – 23,850 tCO₂e/year
 - 1 Wastewater 96,000 tCO₂e/yea
 - 1 Geothermal 81,000 tCO₂e/year
 - 1 Landfill 21,500 tCO₂e/year
 - 1 Bagasse 37,600 tCO₂e/year



CDM Philippines: A snapshot

- Letter of Approval 8
 - 1 Wind 57,000 tCO₂e/year
 - 1 Wastewater 96,000 tCO₂e/year
 - 1 Geothermal 81,000 tCO₂e/year
 - 5 Pig-waste 21,800 tCO₂e/year



CDM Philippines: A snapshot

- Under Validation 23
 - 1 Wind 63,000 tCO₂e/year
 - 1 Geothermal 81,000 tCO₂e/year
 - 1 Landfill 36,000 tCO₂e/year
 - 1 Mini-hydro 2,500 tCO₂e/year
 - 19 Pig-waste 110,000 tCO₂e/year



CDM Philippines: A snapshot

- Requesting for registration 2
 - Northwind Bangui Bay Project
 - 25 MW Wind Farm
 - 58,000 tCO₂e/year
 - Wastewater treatment using thermophilic anaerobic digester at an ethanol plant
 - Capture of methane emissions
 - Collection of biogas as fuel source for boilers
 - 96,000 tCO₂e/year
- Registered 0

Northwind Bangui Bay Project

- First commercial capacity, on-grid wind turbine farm in the Philippines and South-East Asia.
- 15 wind turbines
- 57 km 69,000 Volts overhead transmission line
- 74,500 MWh annually
- 57,000 tCO₂e/year
- Project Owner: Northwind Power Development Corp.
- CDM Advisor: WB Carbon Finance Business
- ERPA with WB PCF as Trustee of
 - Netherlands
 - Finland



Wastewater treatment at an ethanol plant

- Using a thermophilic anaerobic digester
- Avoidance of methane emission from anaerobic lagoon
- Using biogas collected as fuel source for ethanol plant's boilers, displacing 16 tons of bunker oil per day
- 96,000 tCO₂e/year
- Project owners: Tanduay Distillers, Inc.; Absolute Chemicals, Inc.
- CDM Advisor: Mitsubishi UFJ Securities
- CER Buyer: Mitsubishi Corporation, Japan

Wastewater treatment at an ethanol plant

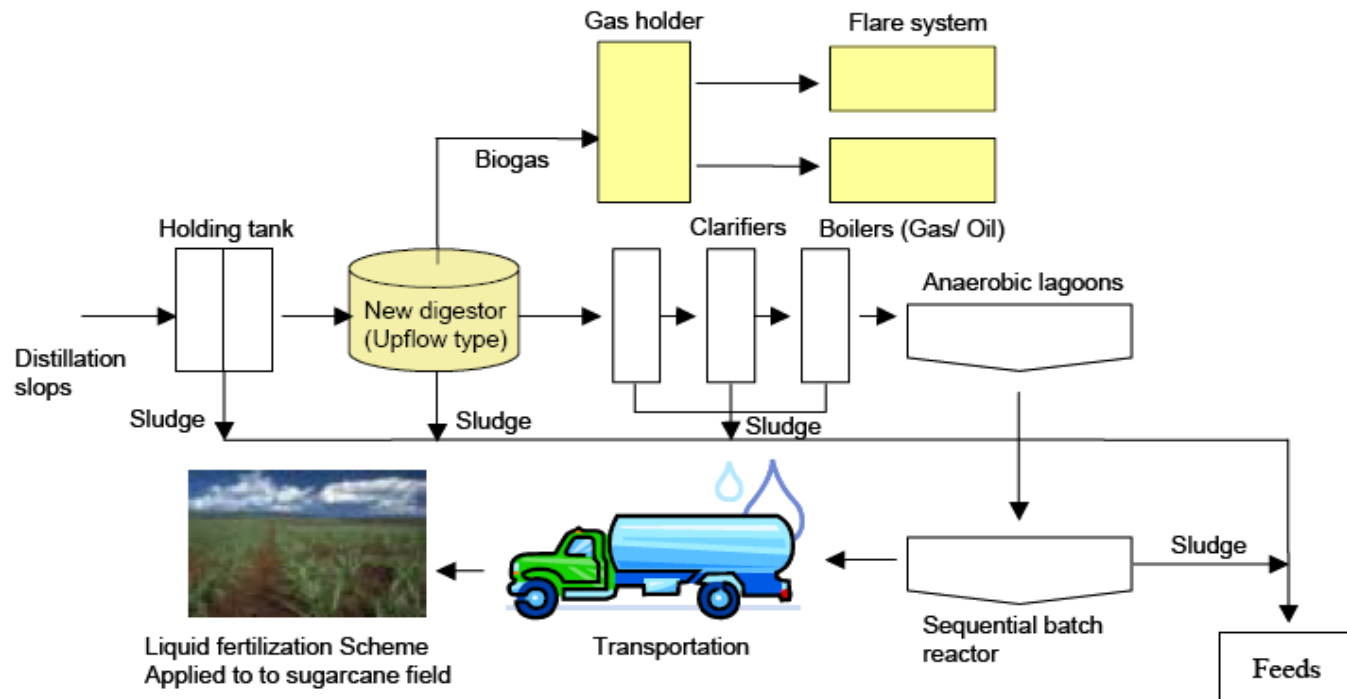


Figure 2: Diagram of the Project wastewater treatment system

2. Lessons learned

2.1 Post 2012

- Carbon Market still very short term (2008 – 2012)
- Important signal needed regarding Post 2012 commitments

2.2 CDM EB

- Importance of International Transactions Log (ITL)
 - Important for the link between CDM & EU ETS
- Revisions in the Methodologies make formulation of PDDs more cumbersome
- Recent revisions have made simplified methodologies for small-scale projects more complex

Sipangpang 1MW Mini-hydropower Project

- 1 MW run-of-river mini-hydropower project
- 6,132 MWh per year
- Eyamjo River, Municipality of Cantilan
- 2,500 tCO₂e/year
- Project Owner: Municipality of Cantilan, Surigao del Sur
- Project Developer: UPP Associates
- CDM Advisors: Mitsubishi UFJ Securities; **CaFiS**

Sipangpang 1MW Mini-hydropower Project



Estimate baseline emissions

AMS-I.D : Grid connected renewable electricity generation

The baseline emission factor of the grid is...

Version 8: March 2006

- a) Combination of the **Approximate Operating Margin** and **Build Margin** emission factors
- b) **Weighted Average** emissions using data for:
 - a) average of 3 years
 - b) initial year of project generation

Version 9: July 2006

- a) A combined margin (CM), consisting of the combination of **operating margin (OM)** and **build margin (BM)** according to the procedures prescribed in the approved methodology **ACM0002**
- b) **Weighted Average** emissions of the initial year of project generation

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Estimate emissions reductions

$$ER = BE - PE - L$$

Ver 8 AMS-I.D			
Baseline Emission Factors	Data Vintage	tCO2/MWh	CERs
(Simple OM + BM)/2	2002-2004 historical data	0.449	2,753
(Simple OM + BM)/2	projected 2007 data	0.734	4,501
Weighted Average	2002-2004 historical data	0.163	1,000
Weighted Average	projected 2007 data	0.313	1,919
Ver 9 AMS-I.D			
Baseline Emission Factors	Data Vintage	tCO2/MWh	CERs
(Average OM + BM)/2	2002-2004 historical data	0.186	1,141
(Average OM + BM)/2	projected 2007 data	0.518	3,176
Weighted Average	projected 2007 data	0.313	1,919

*unofficial calculations

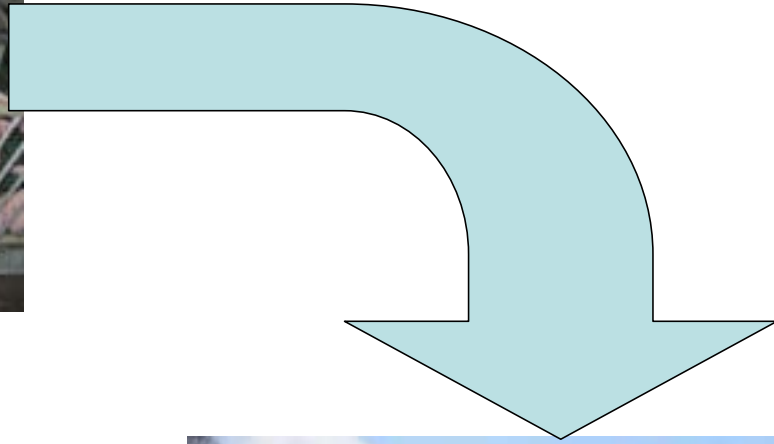
EFs and data vintage used in PDD of Sipangpang Project

2.3 Uncertain timeframes of National approval process

- Slowness of National Approval process is one significant factor which is delaying completion of validation process and registration with EB
- DNA Target processing times
 - 15 - 20 working days for small-scale
 - 20 - 25 working days for large-scale
- 6 projects which applied in November 2005, only got approved in June 2006
- DNA is still “fine tuning” its approval process
 - Approved 8 of 24 applications (1 in December 2005, 7 in June 2006)
 - DNA Secretariat: Understaffed, overstretched
 - CDM Steering Committee
 - Composed of Senior government officials and Representatives of private sector and NGOs
 - Does not yet have regular schedule of meetings

Pig City methane capture

- Pig City confined swine feeding operations methane capture and combustion from improved animal waste management system
- From 4,000 to 8,000 sow level capacity addition
- 30,370 tCO₂e/year
- Project owner: Cavite Pig City Inc. – Ngo Family
- CDM Consultant: **CaFiS**

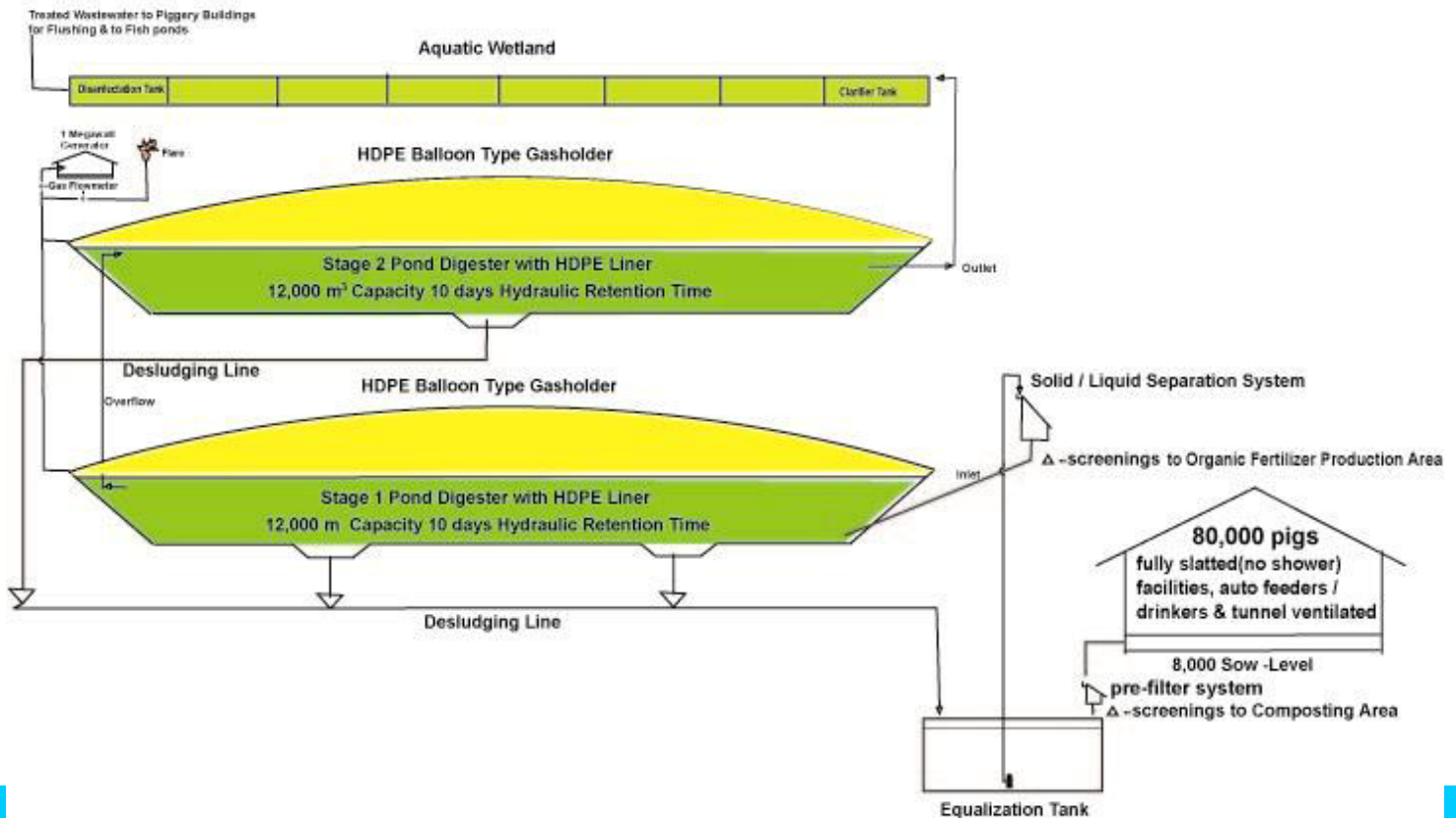


**Pig City
methane
capture**



Pig City methane capture

Zero-Discharge Wastewater Treatment Facilities with Biogas to Energy Component.



Pig City methane capture

- Application for National Approval
 - Submitted December 2005
 - DNA asked for revisions June 2006
 - Revisions submitted
 - Application still pending
- Validation cannot be completed without National Approval
- Meanwhile, revisions of AMS III-D
 - Pig City PDD used Version 8 valid only till 11 May 2006
 - Request for Registration must be submitted 07 July 2006
 - But there is already a Version 10 (latest version 28 July 2006)
 - ER capped at 25,000 tCO₂e annually
 - Pig City Project could have generated 30,000 tCO₂e annually

2.4 Carbon finance

- Lots of carbon buyers, very few project investors
 - Most carbon finance is for purchasing carbon credits
 - Not much foreign investment in projects which reduce GHG emissions

Carbon revenue as enhancement



Carbon Revenue
as icing

Project Finance
to bake the
cake

2.4 Carbon finance

- Local financial institutions are unsure on how to treat ERPA and prospective carbon revenue stream in their evaluation of loan applications
- Local financial institutions still do not accept CERs as collateral

2.5 Sustainable Development

- CDM: GHG reduction and Sustainable development
- Most small-scale projects have significant sustainable development benefits for the local community
- Most carbon buyers have high minimum CER volume requirements which small-scale projects cannot meet
- Few carbon buyers put a price premium on the sustainable development benefits of the project

Recommendations

On how to engage more private
sector players who can move CDM
forward

Recommendations

- Clear and stable policy context
 - About Post 2012
 - From CDM EB: ITL, Methodologies, Registration, Issuance
 - From DNA: Timeframes
- More project investors, not just carbon buyers
- Price premium for projects with strong local sustainable development benefits
- Preferential incentives for small-scale projects
- Capacity building of local financial institutions regarding underlying project financing and carbon revenue

Maraming salamamat!

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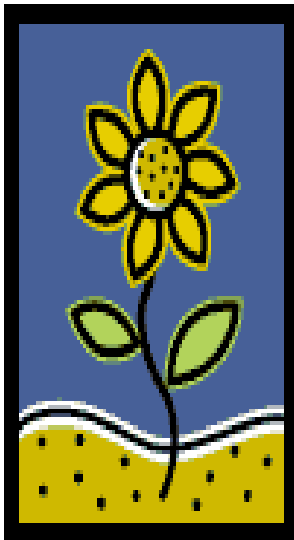
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