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# Carbon Finance Support Facility Landfill Gas Recovery and Combustion with Renewable Energy Generation from Sanitary Landfill Sites

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# OUTLINE

- I. Country Profile
- II. LANDBANK Profile
- III. Sanitary Landfill Facilities in the Country
- IV. Carbon Finance Support Facility
- V. Program of Activity (PoA) for Landfill Gas-to-Energy projects
- VI. Barriers Encountered
- VII. Actions Taken / Way Forward



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# COUNTRY PROFILE: THE PHILIPPINES



## Republic of the Philippines

- Location : Southeast Asia
- Capital : Manila
- Land Area : 115,830 sq. miles
- Population : 103 million  
(As of Dec. 2012)
- GDP: US\$ 240.6 B  
(As of Dec. 2012)



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# COMPANY PROFILE: LANDBANK



Ownership	100% National Government  Principal depository of the Philippine government
Industry Ranking (as of 31 December 2012)	4 <sup>th</sup> largest bank in the Philippines  <u>Asset Size:</u> <i>PhP 683.B or ~ US\$ 17 B</i>
Reach and Network (as of 31 December 2012)	333 Branches/Bank Units and 8,332 manpower
International Standard Certifications	ISO 14001:2004 Environmental Management System (EMS)
	ISO 9001:2000 Quality Management System (QMS)



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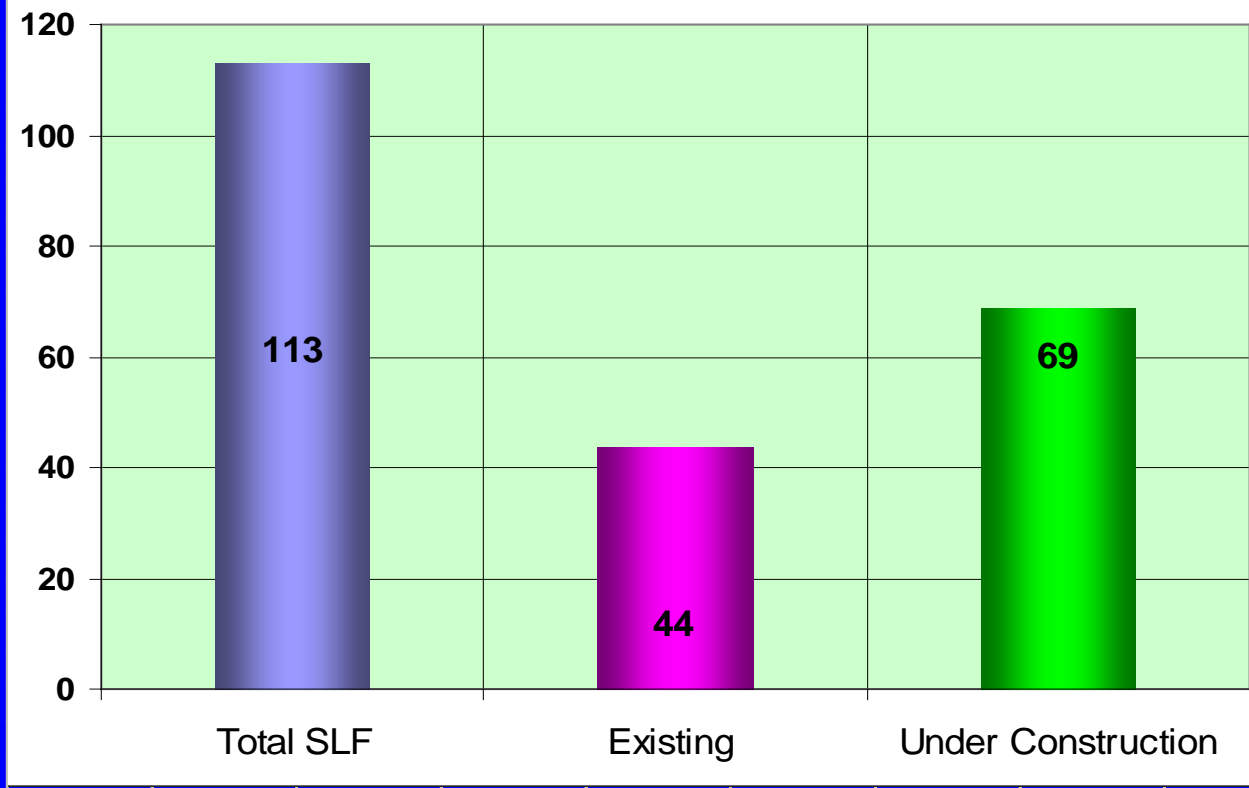
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# Sanitary Landfill Facilities in the Philippines

(Source: National Solid Waste Management Commission)  
As of December 2012



 LFG collection system and landfill gas-to-energy facilities are not mandated by law (Republic Act 9003)



# Carbon Finance Support Facility (CFSF)

## CFSF

### Objective:

*To promote climate change-mitigating activities by providing financing and CDM services*

## LANDBANK CDM Programs of Activities (PoAs)



**Methane Recovery and Combustion from Anaerobic Animal Manure Management Systems – PoA 5979**



**Landfill Gas Recovery and Combustion from Sanitary Landfill Sites – PoA 6707**



**Philippines Mini-Hydro-PoA 8674**



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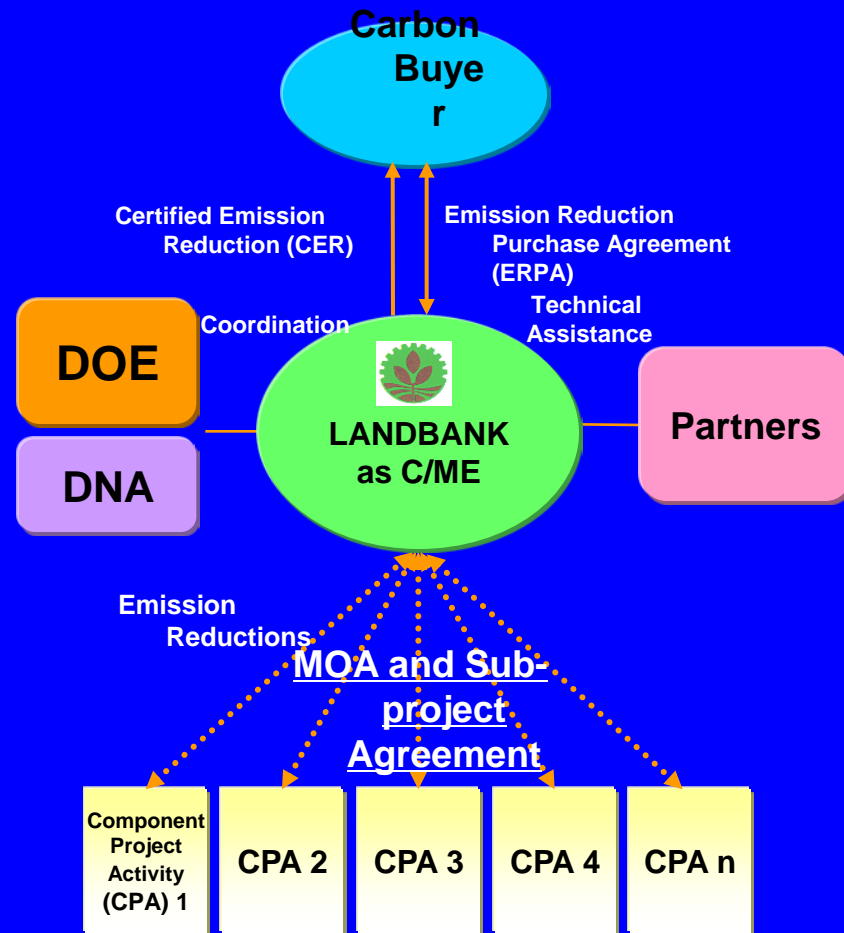
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# LANDBANK, as the Coordinating and Managing Entity (C/ME) of the PoA

- Conducts due diligence activities
- Facilitates DNA endorsement
- Provides support and assistance on CDM documentation, verification and monitoring
- Uses CER as additional source of loan repayment / security
- Charges management fees



# POA for Landfill Gas-to-Energy Project (UNFCCC registered POA 6707)



## PoA Title:

- Landfill Gas Recovery and Combustion with Renewable Energy Generation from Sanitary Landfill Sites under Land Bank of the Philippines Carbon Finance Support Facility

## Methodology Used:

- ACM0001 v.11

## Registration Date:

- 20 July 2012

## Carbon Buyer:

- WB (as Trustee of Spanish Carbon Fund)



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# POA for Landfill Gas-to-Energy Project (UNFCCC registered POA 6707)

## ● 1<sup>st</sup> CPA:

- Project Name:  
VGPuyat Bulacan Engineered Sanitary Landfill
- Capacity: Max. waste receiving rate of 4,958 MT/day
- Location: City of San Jose del Monte, Bulacan
- Est. CERs: 4.5M tCO<sub>2</sub>e for 10 years
- CPA Implementer: VGPuyat Group, Inc.



# Potential of the PoA

- **Pipeline projects:**
  - 3 sanitary landfills
- **Potential CERs:**
  - 205,000 tCO<sub>2</sub>e (annual average for 7 years)
- **POA life: 28 years**
- **First and only in the country – ready platform for eligible LFG projects**



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# Barriers Encountered

- Financial Risk – high investment cost vs. uncertainty on ROI
- Government policy – the solid waste law does not mandate local government unit to capture the methane
- CDM Process – tedious documentation, high transaction cost and need for stakeholders consultation
- Few successful LFG methane capture with power generation projects in the country



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# Actions Taken / Way Forward

- Mainstreamed financing of LFG projects under the Carbon Finance Support Facility
- Collaborated with World Bank, GMI and local agencies for technical support and capacity building assistance
- Identify model project to showcase the POA
- Promote PoA to local government units and private developers



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# THANK YOU !



## LAND BANK OF THE PHILIPPINES

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