



Over Expectations of Emission Reductions from Landfill Gas Recovery Projects

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United Nations Framework Convention on Climate Change

- UNFCCC creates the overall framework for inter-governmental efforts for climate change mitigation
 - Spirit of the UNFCCC: “common but differentiated responsibilities”
- Kyoto Protocol entered into force in February 2005 and is born out of the UNFCCC and endorsed by the Conference of the Parties meeting in Kyoto in 1997
 - Transition from voluntary action to legally binding commitments
 - 38 ratifying industrialized countries are required to reduce their GHG emissions by an average of 5.2% below 1990 levels during 2008-2012

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The Kyoto Protocol

- Compliance with their Kyoto commitments implies a total reduction of about 5.0-5.5 billion tonnes of CO₂e over the 2008-2012 period.
- Kyoto targets may be achieved by:
 - Industrialized countries reducing domestic emissions
 - Trading emission permits (“allowances”) among companies and Assigned Amounts Units (“AAUs”) among governments
 - Purchasing emission reductions credits from projects:
 - Developing countries (Clean Development Mechanism – CDM)
 - Economies in transition (Joint Implementation – JI)
- Market created mainly as a result of regulatory commitments
- The Bank is a pioneer in the CDM/JI segment of the carbon market with 10 years of experience.

Carbon Funds

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Methodologies Available for LFG Projects

Approved Large Scale Methodology	
AM0025	Avoided emissions from organic waste through alternative waste treatment processes --- Version 10
AM0039	Methane emissions reduction from organic waste water and bioorganic solid waste using co-composting --- Version 2
Approved Consolidated Methodology	
ACM0001	Consolidated baseline and monitoring methodology for landfill gas project activities --- Version 8
Approved Small Scale Methodology	
AMS- III.E.	Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment
AMS- III.F.	Avoidance of methane production from decay of biomass through composting
AMS- III.G.	Landfill methane recovery

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CDM Registered LFG Projects

CDM-registered projects:	978
CDM-registered LFG projects:	84
Total volume from reg. projects:	18.3 MtCO ₂ -e
Total Projects under validation:	57
Total Volume of Emission Reductions:	23 MtCO ₂ -e

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WB Carbon Funds and Facilities

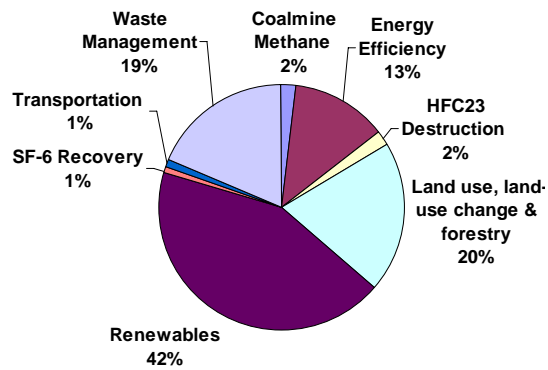
Total funds pledged ~ US\$ 2.1 bill. (16 governments, 66 firms)

Fund	Size (\$million)	Participant(s)	Focus
Pioneering Fund			
Prototype Carbon Fund	180	Multi-shareholder	Multi-purpose
Specialized Funds			
Community Development Carbon Fund	128.6	Multi-shareholder	Small-scale projects that generate social benefits
BioCarbon Fund Tranche 1	53.8	Multi-shareholder	Land Use, Land-Use Change, and Forestry (LULUCF) projects
BioCarbon Fund Tranche 2	36.1		
Country Funds			
Netherlands Clean Development Mechanism Facility	n.a.	Netherlands Ministry of Environment	CDM projects
Netherlands European Carbon Facility (Jointly managed with IFC)	n.a.	Netherlands Ministry of Economic affairs	Jl projects
Spanish Carbon Fund	308	Multi-shareholder (Spain)	Multi-purpose
Italian Carbon Fund	156	Multi-shareholder (Italy)	Multi-purpose
Danish Carbon Fund	81	Multi-shareholder (Denmark)	Multi-purpose
Carbon Fund for Europe (Jointly managed with EIB)	70	Multi-shareholder	Multi-purpose
Umbrella Fund			
Umbrella Carbon Facility	737.6	Multi-shareholder	Tranche 1: Two HFC-23 projects in China

Technology Distribution of WB carbon operations portfolio



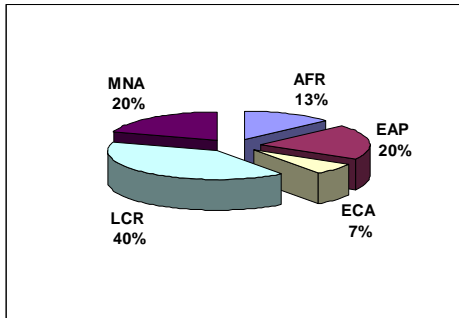
Technology Distribution
(By # Projects)



CFU Portfolio Distribution of LFG Projects



Portfolio
of Projects: 15
Volume of emission reductions: 11.7 Mt CO₂-e



Argentina: Olavarria Landfill Gas Recovery
Argentina: Salta Landfill Gas Capture Project
Brazil: NovaGerar Landfill Gas
China: Tianjin Shuangkou Landfill Gas Recovery and Electricity Generation
Egypt: Alexandria Onyx Landfill Gas (LFG) Capture and Flaring
Indonesia: Gikoko - Bekasi Landfill Gas Flaring project
Indonesia: Pontianak Landfill Gas Recovery
Latvia: Liepaja Solid Waste Management
Mexico: Umbrella Waste Management
Nigeria: Lagos Solid Waste Management Project
Peru: Huaycoloro Landfill Gas Recovery
South Africa: Durban Municipal Solid Waste
Tunisia: Djebel Chakir Landfill Gas Recovery and Flaring
Tunisia: Gas Recovery and Flaring for Nine Landfills
Uruguay: Montevideo Landfill Gas Capture



Thank you

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Veolia Environmental Services and Landfill Gas Recovery Projects

BBL sponsored by the Carbon Finance Unit

**Wednesday, April 9, 2008
12:30 pm - 2:00 pm
Room I 2-250**

Speaker

Gary Crawford

Vice President - Greenhouse Gas Department
Veolia Environmental Services

Moderator

Charles Peterson

Senior Environmental Specialist, FEU

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