

Waste to Energy CDM Projects

ADB Clean Energy Forum
6-10 June 2016

By

Ken Beck Lee

New East Advisors Ltd., Canada



Types

- Incineration of MSW, Agricultural Waste, and Bio Mass
- Utilization Methane from Landfill, Wastewater Treatment, Manure and Agri Food Industrial Waste



Carbon Credits from WtE

- GHG Avoidance
- Renewable Energy Generation



Popular UNFCCC Approved Large Scale Methodologies

- ACM0001 – LFG: 228 including LFG flaring without generating Energy (43 LFG to Energy projects in China with only 27 published Monitoring Reports)
- ACM0010 – Livestock Manure: 9 (8 energy generation with 4 published MRs)
- ACM0014 – Wastewater: 27 (8 published MRs)
- ACM0022 – MSW: 9 (6 energy generation & no MR)
- AM0022 – Industrial Wastewater: 13 (11 published MRs)
- AM0080 – Wastewater Biogas: 1 (no MR)



Popular UNFCCC Approved Small Scale Methodologies

- AMS-III.E – Biomass Combustion: 41 (only 16 published MRs)
- AMS-III.G – LFG Combustion including 11 flaring projects without energy generation: 42 (16 of 33 energy generation projects published MRs)
- AMS-III.H – Biogas Combustion: 240 (15 of 30 projects in China published MRs)
- AMS-III.AO – Bio Cake Combustion: 6 (no MR)



Reasons for Slow Publication of Monitoring Report

- Financial Viability – No Investors
- Aggressive rather than Conservative Emission Reduction Prediction
- Performance based Emission Reduction Purchasing Agreement
- Low Price for Carbon Credit
- Speculative Revenue Projection (e.g. high feed in tariff for power purchase)
- Cost Overrun (Private Sector performs better than public sector)



WtE project Sources of Revenue

- Carbon (GHG Emission Reduction) Credit
- In-house Consumption of Energy
- Sale of Energy to the Neighbour
- Renewable Energy Sales to the Grid



WtE Project Risks

- Social License (Acceptance)
- Security of Waste Supply
- Composition of Waste
- Emission Reduction Purchase Agreement
- Energy Purchase Agreement (Power Grid and/or End Users)
- Financial Stability of Purchasers
- Changing Host Government Policy and/or Regulation



Examples of Project Risks

- Relocation of Brick Factories (Energy End Users) near Landfill Site by Government
- Mistakes in Waste Composition Prediction (Substantial Investment required for Accurate Waste Characterization)
- Changing Waste Composition by Changing Income and/or Government Policy (e.g. Waste Ban)
- Waste becoming Commodity



Thank You

Any Questions?

