



Title: **Philippines - Revolving Fund for Waste-to-Energy Projects**

Sponsoring Country: **The Philippines**

Sponsoring Agencies: **National Solid Waste Management Commission (NSWMC), Department of Environment and Natural Resources; Climate Change Commission (CCC)**

Main Contacts: **Emelita Aguinaldo**, Executive Director, NSWMC  
[emyaguinaldo@yahoo.com](mailto:emyaguinaldo@yahoo.com); +632-9202252

**Joyceline Goco**, Deputy Executive Director, CCC  
[joy.goco@yahoo.com](mailto:joy.goco@yahoo.com); +632-7353144

## 1. Introduction

One of the Philippines' most significant challenges both in terms of sustainable development and GHG emission reductions is waste management. This includes municipal solid waste, wastewater, and agricultural waste. In fact, 38 percent of the country's emissions in 2005 were produced by the waste (15 Mt CO<sub>2</sub>e) and agriculture (39 Mt CO<sub>2</sub>e) sectors, with emissions expected to rise significantly as growing populations and incomes accelerate waste generation. Additionally, there is a significant pipeline of potential waste-to-energy projects to come on-line in the near-term, driven by a robust policy-framework. Under current law, all secondary cities are required to convert open dumps to controlled landfills. This has led to a significant implementation gap – there are currently 55 operational sanitary landfills serving 75 municipalities, and roughly 61 landfills in various stages of construction nationwide. To provide a sense of scale, the Philippines has 1,610 cities and towns. In addition, large scale waste streams (e.g. 13 million tons of solid waste produced annually, 13.7 million pigs) are available for waste-to-energy development. However, without appropriate incentives and access to financing, landfill facilities will be established without methane capture and agricultural waste streams will be underutilized as a source of renewable energy in the Philippines.

### Current Policy Framework and Bilateral Initiatives

The Ecological Solid Waste Management Act of 2000 (Republic Act 9003) mandates the closure of all open dumpsites by 2004 for conversion to controlled disposal facilities. By 2006, these controlled disposal facilities should be converted to sanitary landfills. The law requires the inclusion of a gas control and recovery system for *gas ventilation*, and encourages operators to consider gas capture and utilizations systems if economically feasible. The Clean Water Act of 2004 aims to catalyze the treatment of sewage and wastewater by prohibiting the discharge of pollutants into the nation's

waterways. Both laws prescribe civil and criminal penalties for non-compliance, yet neither law includes a mandate or incentives for methane capture and utilization.

The 2010 Department of Environment and Natural Resources Administrative Order 2010-06 provides guidelines for the use of waste as an alternative fuel and raw material for the cement industry, thereby reducing the need for raw material inputs and reliance of the energy-intensive industry on fossil fuels.

The Renewable Energy Act of 2008 provides a series of incentives for renewable energy generation, including but not limited to: reduced corporate tax rate, VAT-free importation and energy transactions, tax rebates for equipment, accelerated depreciation, operating loss carryover, renewable portfolio standards, net metering and cash incentives for distributed energy. A feed-in-tariff for biomass and biogas is also in place, and implementing guidelines are underway.

Through several bilateral initiatives, the Philippines government is building a foundation to support implementation of the above framework and the actions proposed under this NAMA. Activities include: creation of a landfill database with waste characterization assessments (US EPA); demonstration of best available technology for methane reduction and utilization, development of MRV systems and sectoral baselines (GIZ); and implementation of an enforcement mechanism for promoting local compliance with RA 9003 (UNDP).

### **Reducing emissions from the waste sector through the CDM**

To address methane emissions from waste activities, the Philippines has registered approximately 100 Clean Development Mechanism (CDM) projects expected to reduce 4.3 MtCO<sub>2</sub>e annually. Additionally, the World Bank has agreed to purchase 250,000 tons of certified emission reductions (CERs) through 2013 under two Programs of Activities covering methane recovery and utilization from landfill gas and animal waste. The program is currently under negotiation for a second term.

Despite the CDM's positive initial uptake, the collapse of the carbon market and subsequent CDM revenues has discouraged many firms from installing gas collection and utilization technology in their facilities, or caused waste-to-energy (WTE) facilities in-progress to close before becoming fully operational. With carbon prices likely remaining low in the near-term, the Philippines needs an alternative to the CDM that will catalyze investment in WTE projects, and offer a model that can be replicated elsewhere. Although the World Bank project is supporting a limited number of CDM projects, this model is not able to meet the needs of the sector (the Payatas landfill alone has nearly 400,000 CERs unsold) and is not sustainable without continued donor support.

## **2. NAMA Description**

This NAMA proposes to design a set of measures that will catalyze private investment in methane capture and utilization technology in the waste sector through increased regulation, incentives, capacity building and innovative financing. The NAMA will not seek to replace the existing emission reduction purchase project with the World Bank, but will instead work with the firms producing emissions outside the eligible 250,000 CERs, or in sectors not eligible under the Program of Activities.

## **Regulation, Incentives and Capacity Building**

WTE technology is unlikely to be mandated due to unique circumstances encountered by each facility that affect the financial viability of such projects. However, there is political support in enacting regulations, and incentives can be put in place to stimulate the expansion of waste treatment facilities so that NAMA financing can be directed for the *additional* cost of emission reduction through implementation of WTE technology. Funding to explore the viability and effectiveness of such measures is critical to designing a robust NAMA that will catalyze private sector participation in these facilities, and fill the gap left by the CDM.

The government is interested in exploring the following policy initiatives to reinforce the market:

- Develop guidelines for the design, construction and operation of waste-to-energy facilities that are harmonized with the Clean Air Act
- Mandate that utilities purchase all power generated from biogas
- Capacity building for public-private partnerships to build, operate and maintain WTE facilities, building off of a GIZ project to demonstrate the viability of this technology at the local level

RA 9003 and the Clean Water Act provide the following incentives for solid waste and wastewater management technologies: tax and duty exemption on imported capital equipment and vehicles, tax credit on domestic equipment, tax and duty exemption from donations, priority financing by national financial institutions, and fiscal and non-fiscal incentives provided under the Omnibus Investments Code. However, these incentives do not currently extend to WTE technology. An important regulatory measure would thus be revising “Chapter IV, Section 45” of RA 9003 and “Chapter 4, Section 26(1) Financial Incentives (1)” of the Clean Air Act to explicitly include WTE facilities.

Finally, farms and banks are hesitant to pursue WTE projects due to lack of familiarity with this technology and its application in country. In order to drive uptake, there should be a locally tested, proven technology for WTE facilities that is capable of generating the expected volume of electricity. Thus, in addition to growing the sector through regulations and incentives, demonstration of WTE projects will be an important contribution of the NAMA.

### **Financial Mechanism: Revolving Fund with low interest rates and extended maturities**

Most facilities use the sale of CERs to supplement revenues for loan repayment. Thus, with the loss of carbon credit revenues, annual debt service payments have become unaffordable for the purchase and use of WTE technology.

In an effort to reestablish the financial viability of many proposed WTE projects that have lost the value of CDM support, this NAMA will establish a concessional loan co-financing program to leverage private investment and lower debt service demands for eligible WTE projects. The NAMA fund would provide zero interest loans for up to 50% of a project’s total financing. The loan program would revolve as repayments of principle will flow back to the fund for lending to additional projects.

Several existing government supported lending programs are being considered as a host for the NAMA Proposal Executive Summaries – Prepared for the Global NAMA Financing Summit

revolving fund to reduce operational costs and utilize existing data networks for lending.

### **GHG and sustainable development benefits**

According to a preliminary assessment, this NAMA is expected to reduce 4 MtCO<sub>2</sub>e annually. It will also contribute to the Philippines priorities for sustainable development by reducing vector borne and respiratory disease associated with unmanaged waste; expanding access to energy, especially for the poor in rural areas; and improving the overall quality of life for Filipino citizens.

### **3. Support Requested**

The Government of the Philippines is requesting support for technical assistance to further design and elaborate this NAMA, and \$15 million to capitalize a revolving waste-to-energy fund.