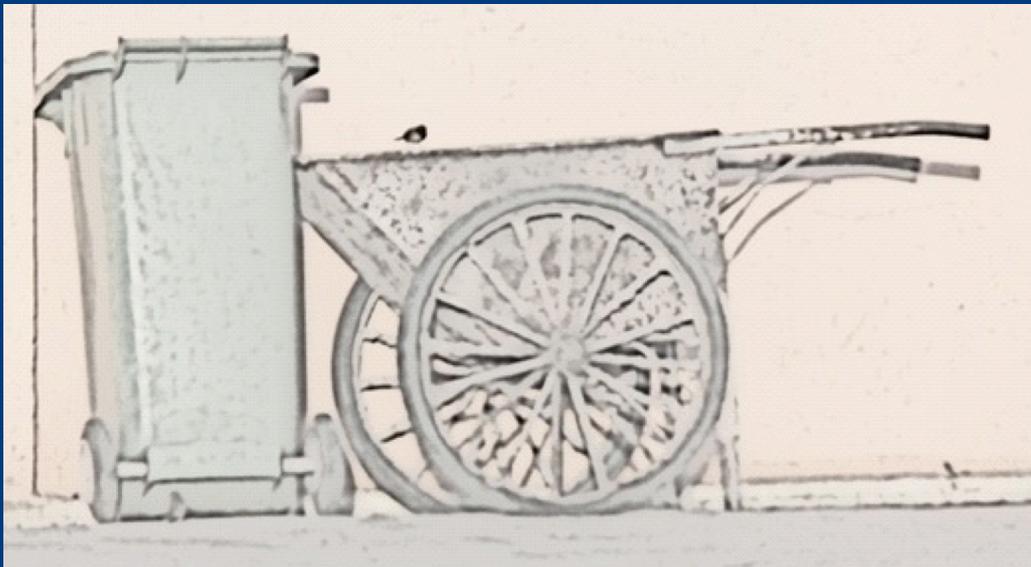


**TA-8566 REG: Mainstreaming Integrated Solid Waste Management in Asia -  
Solid Waste Management Team (46248-001)**

# Policy and Regulatory Reform Paper

## Philippines



**December 2016**

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## List of Abbreviations

<b>ADB.</b>	Asian Development Bank
<b>CAPEX.</b>	Capital Expenditure
<b>COA.</b>	Commission on Audit
<b>DENR.</b>	Dept. of Environment and Natural Resources
<b>FIT.</b>	Feed in Tariff
<b>IEC.</b>	Information Education and Communication
<b>IRA.</b>	Internal Revenue Allotment
<b>IRR.</b>	Implementing Rules and Regulations
<b>LGU</b>	Local Government Unit
<b>MGB.</b>	Mobile Garbage Bin
<b>MMDA.</b>	Manila Metropolitan Development Authority
<b>MRF.</b>	Material Recovery Facility
<b>OPEX.</b>	Operational Expenditure
<b>PPP.</b>	Public Private Partnership
<b>RDF.</b>	Refuse Derived Fuel
<b>SWM.</b>	Solid Waste Management
<b>Tpd</b>	Tonnes per day
<b>WtE.</b>	Waste to Energy
<b>3Rs</b>	Reduce, Reuse, and Recycle

## 1. Introduction

The purpose of this Policy and Regulatory Reform Paper is to identify weaknesses and potential areas for reform in national government solid waste policies and regulations covering Quezon City and Sorsogon City, Philippines. This report should be read together with the Integrated Solid Waste Management Plans of Quezon City and Sorsogon City.

## 2. Review of the Implementation of the Philippines Republic Act 9003

### 2.1. Introduction

In response to the solid waste problems in the Philippines, Republic Act 9003 (RA 9003), also known as the Ecological Solid Waste Management Act 2000, was signed into law in 2001. This law provides the legal framework for the country's systematic, comprehensive and ecological solid waste management program to ensure protection of the health of the people and the country's environment. The implementing rules and regulations of R.A. No. 9003 are contained in Department of Environment and Natural Resources Administrative Order No. 2001-34.

However, most of the country's local government units are still facing with the same challenges with SWM as well as on the implementation of the provisions of RA 9003, the construction of engineered landfills as the final disposal facility, and the enforcement of the salient provisions of RA 9003, most notably the 3Rs (reduce, reuse, and recycle).

As of August 2016, fifty (50) local chief executives are being investigated for allowing the operation of open dumps in their localities and for failing to enforce RA 9003. The operation of dumpsites has been banned under RA 9003 more than 10 years ago.

Municipal Solid Waste (MSW) consists of 52% biodegradable wastes, which are compostable, 28% recyclables, with an 18% residual waste that can be disposed in landfills.

### 2.2. Waste Minimisation

For the waste minimization campaign policy to be effective, it requires a strong and sustained effort to inform the community of regulations stipulated in the law. Hence, effective Information Education and Communication (IEC) campaigns are essential and need a sustainable budget for the program to be effective and continuously running over more than a decade and in fact generations preferably.

In this case, there is no sustained budget for IEC in order to effect change in the behaviour and attitude of people towards solid waste management to segregate and minimize waste and improve their general solid waste habits. As a result, successes have been slow to come. For example, it was only after about nine years since the SWM law (RA 9003) was enacted that plastic shopping bags have come into focus, due to the findings that plastics, particularly plastic shopping bag litter caused clogging of the waterways during the Tropical Storm Ketsana and exacerbated general flooding as a result. This tragedy, together with increasing community concern over the aesthetics and environmental impacts of plastics disposed of illegally, has triggered the banning of plastic shopping bags in many cities in Metro Manila. However, while it achieved the aim of waste avoidance for a particular type of waste, it did not fully mitigate littering in all cities.

The banning of plastic bags did not reduce solid waste generation but simply shifted to another type of waste – paper/cardboard. Shoppers who did not bring their reusable eco-bags simply opt to have their purchased goods packed in used cartons. Thus, a step backward was achieved in recycling of cardboards. Instead of taking the cardboard boxes directly to recyclers, these are now taken back home before they could be recovered and taken back to recyclers.

In order to help alleviate the growing problem with plastic waste, the plastics industry has undertaken voluntary measures to help with the waste minimization program by doing in-store recovery programs in selected supermarkets and other recovery programs in the community as well as the introduction of oxo-degradable plastic bags and reusable eco-bags.

Also, some major shopping malls are continuously promoting the 3Rs through their eco-shopping bags (which bear their brands, ultimately promoting their stores). They also offer incentives for shoppers who use their eco-bags through a point system, wherein the shoppers can avail of some gifts once the indicated points have been accumulated.

Although various initiatives have been conducted, both by the government and private sector in order to avoid and reduce wasting such as “green procurement” or “eco-labelling”, this has not in any way reduced the generation and proliferation of solid waste. The National Solid Waste Management Commission of the Philippines (NSWMC) is mandated under RA 9003 to prepare and update a list of *non-environmentally acceptable products* (NEAP) to be prohibited according to a schedule and as long as NEAP alternatives cost no more than 10% of the cost of disposable products. However, no product has yet been determined as non-environmentally acceptable (NEA) to date.

### **2.2.1. Activities required**

- A mainstreamed Information, Education and Communication (IEC) approach is essential, involving incorporation of SWM issues into the school syllabus at all levels as well as consistently ongoing IEC campaigns by Local Government Units (LGUs), consistent with the stipulations in RA 9003 on waste reduction schemes. One specific would be an IEC campaign element at LGU level promoting reusable bags.
- Eco- labelling must be implemented.
- Consider developing a charging policy for excess packaging/non-environmentally friendly waste such as plastic bags.
- Consider requiring biodegradable plastic bags.

### **2.3. Segregation at source**

One feature of RA 9003 is requiring segregation of waste by type at the source of generation. Segregation at source enables the recovery of cleaner and less contaminated recyclable materials, but only if it is 100% implemented and sustained. The local experience is that the schemes failed and from a global perspective it appears that full segregation is only possible in more developed countries with multiple Mobile Garbage Bins (MGBs) and door to door collection.

However, even without segregation by the waste generators, solid waste is already being segregated by waste collectors themselves, such that there are few recyclables left for recovery by the informal waste collectors.

Also, segregating the biodegradable waste and composting them, either at home or in Barangay Material Recovery Facilities (MRFs) if at all possible prevents them from being disposed in the landfill, minimizing the impacts such as the formation of methane gas as well as getting rid of foul smell of disposal sites.

### **2.3.1. Activities required**

- Reconsider mandatory full waste segregation as not being workable as specified at present. Better to start with green waste for example.

### **2.4. Recycling**

As for the waste minimization campaign policy, it requires a strong and sustained effort to inform the community of regulations stipulated in the law. Hence, effective Information Education and Communication campaigns are essential and need a sustainable budget for the program to be effective and continuously running over more than a decade and in fact generations preferably.

The legislation also puts particular emphasis on the Reduce, Reuse and Recycle (3R) policy of reduce, reuse, recycling as well as resource recovery, and sets a target of at least 25% diversion rate among local governments. These targets have not been enforced but remain a stretch target and are sensibly treated as such as by LGUs.

In reality, the private sector initiatives of waste scavengers at the primary dumping locations, barrow boys from junk shops approaching households and commercial institutions as well as scavengers at dumpsites recover most high level recyclable products without requiring LGU direct intervention. Waste audits in many LGUs have confirmed the success of the present informal approach.

No real changes are required.

## **2.5. Waste treatment**

The NSWMC recently prepared and issued the General Guidelines on waste to energy. This overcomes the Clean Air Act provisions which outlaw incineration of any type, thereby theoretically preventing both Refuse-derived Fuel (RDF) and Waste to Energy (WtE) mass burn facilities. The new guidelines merely stipulate compliance to Clean Air Act regarding emissions of Stationary sources.

Currently, the only WtE technology being used is RDF, which is successful in cement industries (Holcim and La Farge). About 10% of the fuel being used for their cement kilns comes from solid waste (90% is still coal). A private contractor IPM as a partner of Lafarge, is producing RDF in Quezon City and Pasig City (both in Metro Manila). Holcim is also using RDF in its cement plants.

A revision/amendment to RA 9003 to include not just a waste disposal facility but also other waste treatment options, such as waste to energy or refuse derived fuels is appropriate, especially for the larger LGUs generating more than 500tpd.

There are no sustainable centralized composting schemes, but some Barangay level facilities are continuing to operate. Continuing to encourage centralized schemes is inappropriate.

### **2.5.1. Activities**

- Include RDF and WTE in RA9003 updated legislation/IR&R.
- Facilitate RDF and WtE through central government support for LGUs, especially larger LGUs or clusters.
- Reduce focus on centralized composting facilities and focus on Household or small barangay facilities in semi-rural areas.

## **2.6. Final disposal**

Currently, there are only 101 landfills serving the 1,634 local government units (LGUs) in the Philippines, while there are about 364 open dumpsites and 207 controlled dumpsites. Therefore, political alliances are difficult to navigate. Although clustering among LGUs is encouraged under the law, such provision is difficult to implement politically. So most LGUs will have to develop their own disposal facilities.

To uphold the enforcement of Section 37, the Environmental Management Bureau (EMB) Regional Office will continue to monitor and update the existing database on open dumpsites and if appropriate, endorse for the elevation of cases to the Environmental Ombudsman against non-complying LGUs.

The NSWMC has fairly recently issued a resolution (Resolution No. 64 Series of 2013) entitled "Adoption of modified guidelines on site identification criteria and suitability assessment procedure for sanitary landfills". The resolution outlines the parameters for each category of sanitary landfill such as:

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1. Proximity to Groundwater Resources
2. Proximity to Perennial Surface Waters
3. Local Geological Conditions (Underlying Rock Formation)
4. Seismic Conditions (Proximity to faults)
5. Soil Properties and Availability of Cover Material
6. Topography (Terrain and Slope)
7. Vulnerability to Flooding
8. Proximity to Residential Areas and Other Sensitive Land Users
9. Proximity to Ecologically Sensitive or Environmentally Critical Areas
10. Consistency with Current or Proposed Land Use Classification
11. Proximity to Airports
12. Landfill Area and Lifespan
13. Haul Distance, Accessibility and Road Conditions

These parameters appear to be appropriate. With this, there should be no more excuses for any LGU to not to establish sites for their landfills.

Eco-centers are supposed to provide options for local governments to select components appropriate for them. It should also train them on institutional capability in solid waste management and open dumpsite closure, establish and operate MRFs and municipal disposal facilities. Unfortunately, even the National Ecology Centre has not been established to date.

In terms of landfill design, the requirements are not contemporary for the most common sizes of a few hundred tons per day or less. The present requirements talk of leachate treatment plants and should be updated to just require leachate pumping stations with either irrigation or reinjection.

### **2.6.1. Activities**

- The legal requirements should be updated to just require leachate pumping stations with either irrigation or reinjection, not leachate treatment plants.
- Establish a training program for all landfill operators and ensure access to the funds required.
- Run ongoing training programs for landfill operators.

## **2.7. Waste Collection Charges**

Neither Quezon City nor Sorsogon City has financially sustainable waste collection system because they are not collecting garbage management fees. Even though LGUs have budget allocations for SWM under the 20% development fund, the cost of collection oftentimes exceeds the budget.

Under Rule 7, cost recovery mechanisms, of the Republic Act 9003 Sec.1, the LGUs are given the power to collect SWM fees.

Sec. 3a of the Implementing Rules and Regulations (IRR) of the Ecological Solid Waste Management Act 2000 (Republic Act 9003), stipulates that *the Barangay may impose fees for collection and segregation of biodegradable, compostable and reusable wastes from*

*households, commerce, other sources of domestic wastes, and for the use of Barangay MRFs. The computation of the fees shall be established by the respective SWM boards. The manner of collection of the fees shall be dependent on the style of administration of respective Barangay Councils. However, all transactions shall follow the Commission on Audit rules on collection of fees. Also, Sec. 3b of RA 9003 stipulates that the municipal and city councils may impose fees on the barangay MRFs for the collection and transport of non-recyclable and special wastes and for the disposal of these into the sanitary landfill. The level and procedure for exacting fees shall be defined by the Local SWM Board/Local SWM Cluster Board and supported by LGU ordinances, however, payments shall be consistent with the accounting system of government.*

In coming up with SWM fees, however, Quezon City Ordinance Nos. SP-2095, S-2011 and SP-2235, S-2013 on the Socialized Housing Tax and Garbage Fee committed an error in charging garbage fees upon the residents on a per area basis of their residences, which did not agree at all with RA 9003 stipulations on waste collection fees, such that the Supreme Court declared it illegal to collect such garbage fees.

In coming up with legislations on garbage fees, the local government units (LGUs) must always refer to the implementing rules and regulations of the RA 9003 and the rules on fees established by the Philippines' Commission on Audit (COA) so as not to make a similar mistake. Other barangays in other parts of the country have had a successful implementation of garbage fees, which were based on the stipulations of RA 9003 IRR.

## **2.8. Recommendations**

In order to carry out the stipulations of RA 9003, the NSWMC should be active in helping the LGUs in implementation and enforcement of the provisions by doing the following:

- 1) A mainstreamed Information Education and Communications (IEC) approach is essential, involving the incorporation of SWM issues into the school syllabus at all levels as well as with a consistently ongoing IEC campaigns by LGUs.
- 2) Eco- labelling should be implemented.
- 3) Consider developing a charging policy for excess packaging/non-environmentally friendly waste such as plastic bags.
- 4) Consider requiring biodegradable or oxo-degradable plastic bags.
- 5) Institute sustainable IEC campaigns at LGU level including supporting reusable bags.
- 6) The national government should allocate a budget for the activities of solid waste management, especially to survey all LGUs and their solid waste management activities.
- 7) Initiate Capacity building of all Staff responsible for SWM among LGUs through intensive trainings and on-going training support on the proper operation of landfills as most landfills fail due to poor operation rather than poor design.
- 8) Sustained information, education, and communication (IEC) campaign in the community (schools, universities, barangays, and households) regarding the 3Rs (Reduce, Reuse, Recycle).
- 9) Enforcement should be strict by imposing penalties and fines to both individual litterers, commercial fly- dumping and LGU failures to comply.
- 10) Reconsider mandatory full waste segregation as not being workable as specified at present. Better to start with green waste for example.
- 11) Incentives to those who implement and enforce SWM, such as Results-based Financing to LGUs.

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- 12) Provide support to inventors of solid waste recycling products and recyclers in the country.
- 13) Establish the National Ecology Center.
- 14) Include RDF and WTE in RA9003 updated legislation/IR&R.
- 15) Facilitate RDF and WtE through central government support for LGUs, especially larger LGUs or clusters.
- 16) Reduce focus on centralized composting facilities and focus on Household or small barangay facilities in semi-rural areas.
- 17) The legal requirements should be updated to just require leachate pumping stations with either irrigation or reinjection, not leachate treatment plants.
- 18) Establish a training program for all landfill operators and ensure access to the funds required.
- 19) Run on-going training programs for landfill operators.
- 20) LGUs must come up with proper legislation, consistent with the stipulations of RA 9003 to collect residential waste collection fees.

### **3. Specific Issues at LGU level**

#### **3.1. Quezon City and Sorsogon City General Solid Waste Policies**

In general local law and regulations on solid waste policies seem to be sensibly drafted, so the focus of policy reforms should be focused at the national level.

#### **3.2. Quezon City Waste Collection Concessions**

At present, Quezon City private waste collection concessions are limited to one year in length due to restrictions in the national procurement law. This represents an effective impediment to investment by private operators in modernized efficient equipment as there is virtually no pay-back period for new equipment finance. Better equipment should lead to more effective and efficient service delivery, so it is recommended these concessions are significantly extended to a term of 7 years or more.

## 4. Public Private Partnership (PPP)

### 4.1. Status of PPP Framework for Local Government Units

The Philippines government has well developed PPP laws and implementing rules and regulations and many consulting studies have reviewed them in the past. It is worth pointing out that LGU's have the capacity to implement their own PPP projects under the Local Government Code of 1991 ("LGU Code") using their own PPP ordinances and are not required to follow the national PPP law on project approval processes. Further studies can analyse the wisdom of this alternative. One important factor worth highlighting is that while the LGU code limits its own borrowing, it places no limits on LGU PPP contract financial obligations which may be funding private sector borrowing against LGU credit.

### 4.2. Some Key Issues Impacting WtE PPP projects

#### 4.2.1. Reliance on General Net Revenues in Lieu of Legal Residential Waste Collection Charge

Per Section 3.7, LGU's are not encouraged to make solid waste management for residential customers a self-sustaining business in terms of funding. If this objective is realized at all for individual LGU's, only commercial customers would be paying charges that reach self-sustaining levels. Given that most solid waste service is provided at low cost or free-of-charge, there is principal reliance on an LGU's general funds to pay disposal fees for large scale waste-to-energy projects. In essence the LGU capacity to make WtE PPP contract payments is similar to loan capacity – as the same funds are pledged. If this is the case, then two related major issues arise that would appear to require Department of Finance clarification via regulatory circulars:

- Are PPP obligations senior, pari-passu or junior to ordinary LGU debt obligations<sup>1</sup>?
- As virtually all LGU loans in the Philippines are secured by a pledge over Internal Revenue Allotment (IRA), can LGU PPP financial obligations be treated in the same way?

#### 4.2.2. Contingent Financial Obligations under LGU Concession Contracts

It is normal that detailed "termination fee" compensation provisions are provided in PPP contracts to compensate private parties for the consequences of LGU default. The quantum of compensation can be particularly large if the private party has financed a large quantum of capital works which would need to be repaid.

Barring the unlikely ability of an LGU to cash collateralize such obligations with dedicated reserves, a way will have to be found for it to convince private parties that such LGU can access such funds on short notice to meet contractual compensation obligations.

#### 4.2.3. Waste Disposal Subsidies Paid by Manila Metropolitan Development Authority (MMDA)

MMDA provides payments of PhP 600 per ton to LGU's for waste disposal facilities including landfills / dumpsites and this benefit is expected to be extended to waste to energy plants. However, private parties would appear to not have legal certainty that the policy can reliably continue for the duration of an estimated 25-year contract. Legal security over such funds can be further discounted as:

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<sup>1</sup> This seems to be a new issue which is not explicitly dealt with in the loan documents of the two largest LGU lenders in the Philippines.

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- (i) MMDA, having very limited or none of their own revenues, would not be a creditworthy counterpart.
- (ii) MMDA has no contract in place to pledge such future funding to waste disposal owners / operators or to the LGU's themselves.

### 4.2.4. Risks associated with Feed-In Tariff under RA 9513

Renewable energy developers build project models around risks associated with obtaining feed-in tariffs at the time of financial close. Furthermore, since the feed-in tariff rate is based on the then applicable rate (adjusted every 2 years), developers are forced to speculate on what the ultimate rate will be at the time of construction completion. This system does not fit well with Waste to Energy plants noting the following:

- Waste to Energy plants are placed in the biomass category, meaning that they must compete for limited FIT capacity with another completely different fuel source.
- Large scale risks associated with electricity tariffs will drive up required investors returns and disposal fees may go up to assume a downside case of biomass category rate reduction over two adjustment cycles prior to commissioning.
- Construction periods could be as long as 2-3 years, making both obtaining the required allocation under the biomass category and predicting the rate charged a medium to high risk proposition.
- In case of failure to obtain an allocation to receive a FIT tariff, WtE economics might not be sustainable under an alternative merchant power sales model.

Given the above, comparing the FIT on offer for WtE with international best practices and noting the expectation of increase of WtE projects in the Philippines, the following recommendations are made:

- Since WtE is not a form of biomass power, it should be placed in its own specific category.
- Given the risk profile of a WtE plant, the large scale CAPEX involved and participation of major bank capital, the FIT could be awarded at the applicable rate on financial close date rather than at project completion date.

## 5. Feedback from Participants at Policy and Regulatory Reform Workshop

### 5.1. Workshop

A workshop was held on 23 November 2016 at ADB headquarters in Manila to discuss Policy and Regulatory Reform in the Philippines solid waste sector. All the attendees to this workshop are listed in Annex 1.

### 5.2. Key Issues Discussed

#### 5.2.1. General Policy on Incentives

Quezon City suggested that national policies provide more incentives for compliance with solid waste management policies.

#### 5.2.2. Reusable Plastic Bags

Significant feedback was provided by participants on the guidance of RETA consultants that paper bag production and disposal was not necessarily less environmentally harmful than plastic bag production.

Quezon City does have an ordinance which requires major commercial retail outlets to charge users for plastic carry bags at PhP 2 each. There is an agreement with major retailers (including Robinson and SM) to contribute to a green fund (amounting currently to PhP 100m) from the sales of these plastic bags. Quezon City is still however finding that supermarkets are using paper bags rather than plastic bags and more regulations will need to be created to suppress paper bag usage.

Sorsogon City indicated that due to RETA 8566 recommendations in the Integrated Solid Waste Management Plan, it is now more aware that paper bag use is not benign, and will consider new regulations to suppress paper bag usage.

MMDA indicated the need for the Central Government Department of Science and Technology findings to support the conclusions against paper bag usage. MMDA also noted the need for laws and regulations not to confuse biodegradable plastics from simply degradable plastics.

#### 5.2.3. Training of Landfill Operators

DENR was encouraged include provisions in its waste management Information Education and Communication Campaign for focused training to LGUs and other agencies on: a) leachate and operations management; and b) proper closure of dumpsite, and c) not simply training on construction of landfill. DENR should also require that LGU's ensure that dedicated landfill space is still available for incinerator residual fly ash.

#### 5.2.4. School Curriculum

Quezon City referenced recent progress made in including waste segregation education into school curriculum, but believe that this initiative should be taken up at the national level to enhance the educational effectiveness. The curriculum should also be expanded to include items beyond waste segregation.

#### 5.2.5. National Procurement Law Restrictions on Term of Waste Collection contracts

RETA 8566 consultants indicated that private waste collection contracts should be at least seven years in length to allow private concessionaires to invest in and fully amortize high quality equipment. Current national procurement law provisions restricted terms of contract to one year, making it likely that much less efficient vehicles were used.

RETA consultants pointed to Singapore where 7 years contracts were the norm for private collection contracts.

Quezon City indicated its understanding that progress was being made to introduce new amendments into the national procurement law to allow for much longer contract terms.

#### **5.2.6. Potential conflicts between Clean Air Act and R.A. 9003**

There was general consensus that RA 9003 should be harmonized with the recently issued Clean Air Act regulations concerning WtE facility emissions.

In response to questions on emission standards, RETA 8566 consultants noted that up to 40% of the capital costs of WtE projects may be dedicated to pollution control equipment.

#### **5.2.7. PPP Contractual Issues**

Quezon City is currently reviewing an Unsolicited Bid for a WtE project and hoping to clarify how the city could pass future appropriations to make PPP contract payments. This is one of a growing list of LGU specific PPP issues that would hopefully be addressed by DBM or DOF circulars. Otherwise, there is a risk that LGU code amendment may be needed in the worst case. RETA Consultants suggested that PPP contract obligations be treated in a similar way to LGU repayment of loans – as the future appropriation issue has been addressed to the satisfaction of LGU lenders and loan/bond guarantors.

The PPP Office indicated that it is supporting Quezon City and other LGUs during the review period for solicited and unsolicited proposals. One tool, which the PPP Office offers, is a checklist which LGU's can use for completeness of proposal.

Both Cities indicated that they do not have internal capacity to evaluate proposals and would look to external assistance for this.

## Annex 1- Attendance List

### Attendance List for 23 November 2016 workshop to discuss Policy and Regulatory Reform Issues in the Philippines Solid Waste Sector.

#### Stakeholders

Sally Lee (Mayor, Sorsogon City)  
Franz Luigi Lugena (Staff, CENRO Sorsogon City)  
Elsie Encanacion (Director IV – Head, MMDA)  
Frederika Rentoy (Head of Quezon City EPWMD)  
Vincent Vinarao (Quezon City EPWMD)  
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