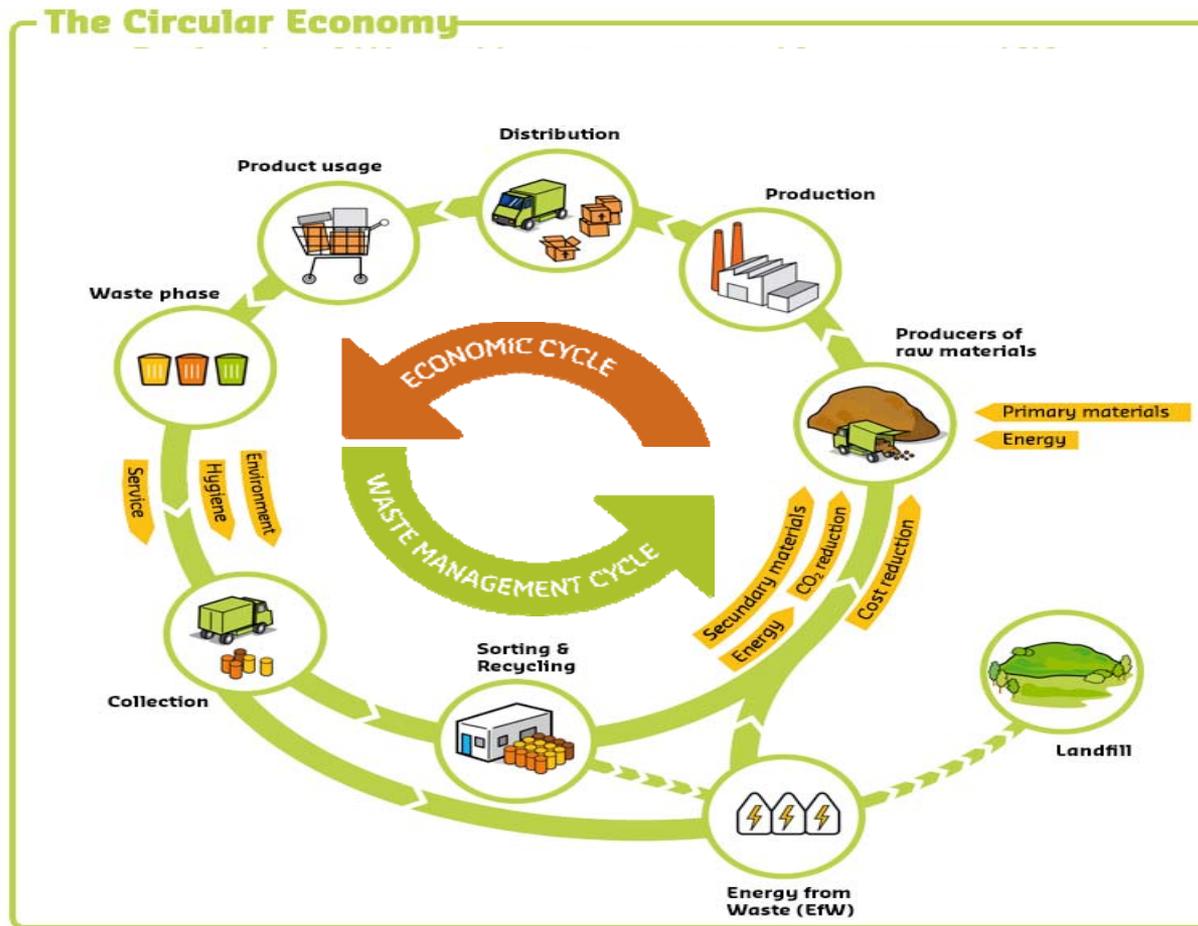


Public Private Partnerships (PPPs) in post Rio+20 sustainable urban development

UNCRD + UNEP/ISWA
Advancing 3Rs and Resource Efficiency in the
Context of Rio+20 Outcomes
Singapore, 4 July 2012

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A vision with Health, Resource and Climate Perspective Waste Management as a Catalyst for the Circular Economy



The Circular Economy model responds to a growing demand for sustainable **WASTE MANAGEMENT** and **PRODUCTION** cycles in a rapidly growing and urbanising world, to a strong needs of **RESOURCE EFFICIENCY** and contributes significantly to the **REDUCTION** of greenhouse gas emissions.

Sustainable development co-benefits

- **Environmental benefits**

- ✓ Reduced GHG emissions generation
- ✓ Reduced environmental degradation from uncontrolled waste disposal
- ✓ Material recovery enables natural resource and energy conservation
- ✓ Energy recovery helps to reduce demand on limited natural resources



- **Economical benefits**

- ✓ Access to international financing
- ✓ Revenues from the sale of emission credits, recovered energy and materials
- ✓ Foreign expertise and training received to facilitate smooth technology transfer



- **Social benefits**

- ✓ Improved sanitary and health conditions
- ✓ New facilities / projects create local job opportunities
- ✓ Staff training to improve skills of locals.



Opportunities for PPPs in all aspects of the waste management cycle

- Waste collection and transport
- Reclamation of recyclable wastes
- Landfill
- Composting
- Anaerobic digestion
- Energy recovery – only if waste composition is compatible with technology

- Nevertheless there is a need for these services to be paid for – usually by charges for services by consumers and municipalities
- Therefore waste management businesses need to be assured there will be a continuing stream of revenues to continue in business
- Unless there is a minimum level of per capita income in the country/region businesses from outside the country are unlikely to come in

Incorporation of the Informal Sector into sustainable urban waste management opportunities

- One of the 4 work streams under the ISWA Task Force on Globalisation and Waste Management
- Need for engagement with public and private sectors
- Collection of recyclable wastes often a trade in the poorest countries
- Collection in transition economies from the streets
- Need for integration or co-working
- Examples of collection PPPs – Rio Janeiro and Sao Paulo - mixed results
- Plus....

Organic Recovery: low threshold for improvement

Organic waste is a major component of MSW.

- Responsible for CH₄ emissions in landfills
- Organic waste can be recovered even at small scale on a local level

Actions to reduce emissions

- Increase compost production
- Use of compost as a soil amendment can contribute to GHG reductions by:
 - reducing production and importation of inorganic fertilizer,
 - the substitution of peat in the production of growth media, and
 - binding carbon in soils.
- Recover methane from anaerobic digestion processes to produce heat and/or electricity.

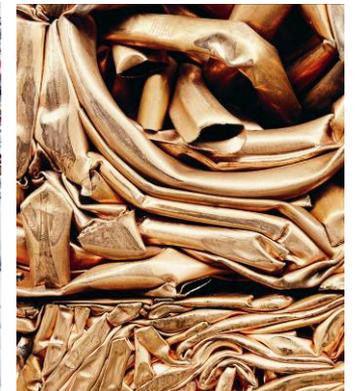


Composting in Dhaka City, Bangladesh

- 1st registered large-scale composting project registered by the CDM EB
- Design, build, operate 3 compost plants
- Compost Production: 50,000 tonnes/year
- GHG emission reductions: 89,000 tCO₂eq/yr
- Job creation: 800 employees

Turning waste into a resource

- Recycling, re-use, and waste minimisation represent an important and growing opportunity for indirect reduction of GHG emissions through:
 - the conservation of raw materials
 - improved energy efficiency and
 - fossil fuel avoidance.



Informal sector's role in WEEE reclamation in Africa

- Informal sector collects WEEE – normally traded with consumers
- Processing by informal sector effective but recycling standards poor
- Need outside expertise to raise standards for final processing
- Need expertise to tackle hazardous components effectively
- Combination of informal sector and formal sector is ideal – high rates of collection (>90%), hand dismantling in high standard premises
- However need for funding – therefore extended producer responsibility
- Kenya - new facility in Mombasa based on former 3rd sector plant

PPP Opportunities through the CDM

The transfer of sustainable technology to developing countries is crucial to reducing GHG emissions. The CDM, introduced under the Kyoto Protocol, has provided an opportunity for the waste sector to make significant advances towards this goal.

- The **CDM** has been successfully implemented with **4200** registered projects and many more in the pipeline.
- The waste sector is well represented amongst the registered projects, accounting for **13%**.
- Currently registered Landfill gas and methane avoidance projects (including manure mgmt. & wastewater) are expected to deliver more than **239 million** carbon credits by the end of 2012.
- However, the CDM has been struggling with lengthy procedures for project registration and credit issuance, with an increasing uncertainty on the outcome.
- Post 2013: EU ETS oversupply and uncertain non-EU eligibility criteria and volumes lead to weak contractual obligations / lower prices for credits

Transferring technology through the CDM

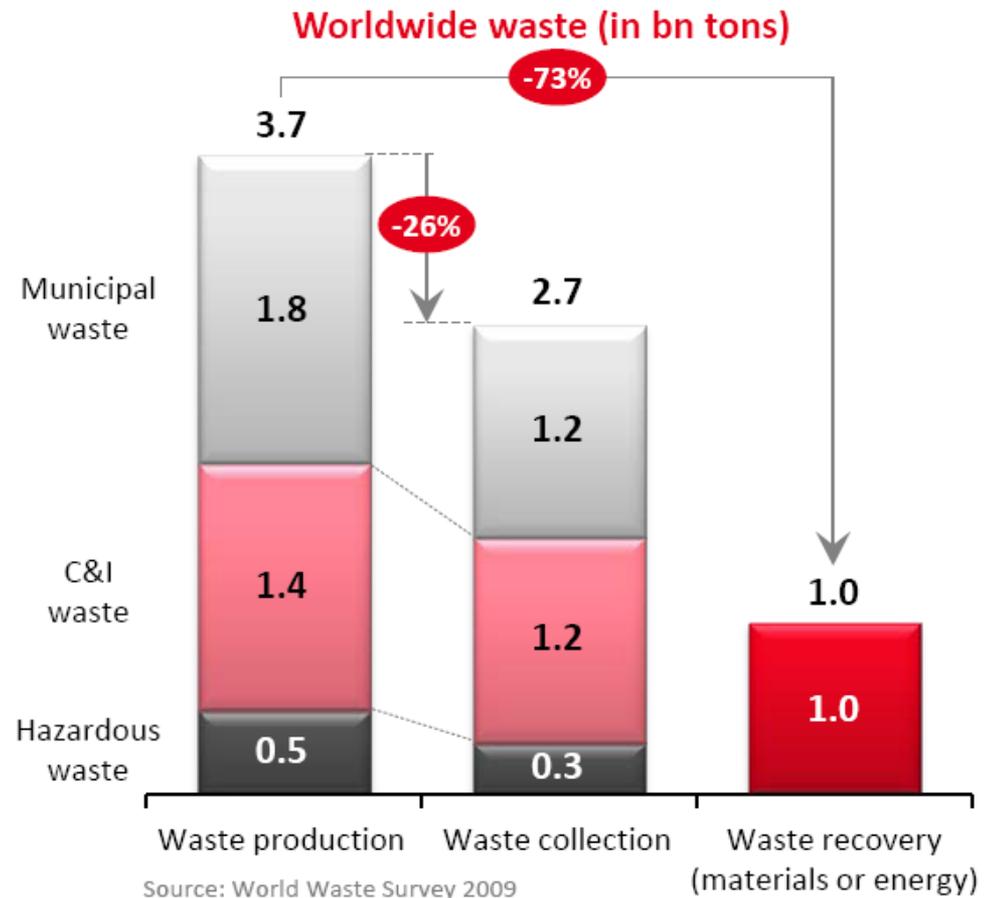
Landfill Gas to Energy Project in Bogota, Colombia

- Awarded to company entitled Biogas Dona Juana (50 % GRS Valtech (operated by Proactiva Colombia); 50 % Gas Natural)
 - Project activity : Installation of an active landfill gas collection system
 - Combustion of landill gas in flares, utilisation of landfill gas in engines to produce electricity and for thermal energy in up to 70 brick factory kilns surrounding the site
 - Crediting period : 7 years, renewable twice maximum
 - Estimated Emission Reduction :
~ 5,800 ktonnes of CO2 eq / 7 years
 - Project registered 10 September 2009



Significant potential to scale-up waste management solutions

- Only 25% of worldwide waste is recovered as materials or energy.
- Waste volumes are growing.
- It is essential that integrated waste management solutions are deployed to achieve sustainability and environmental goals — including reductions in greenhouse gas emissions.



Nationally Appropriate Mitigation Actions (NAMAs):

A new mechanism to attract financial and technological assistance in organizing large-scale mitigation programs

NAMAs Background

- NAMAs initially introduced in the ***Bali Action plan***, published in 2007, and were defined in the following context:

“**Nationally appropriate** mitigation actions by developing country Parties in the context of **sustainable development, supported** and enabled by technology, financing and capacity-building, in a **measurable, reportable and verifiable** manner.”

- The **Copenhagen Accord** lead to some voluntary NAMA communications submitted to UNFCCC
- **Cancún Agreements** took note of NAMA pledges and decided on
 - NAMAs link to performance-measurement
 - NAMA registry
 - Green Climate Fund (up to US\$ 100 billion per year by 2020)
 - New market based mechanisms to be discussed at COP 17
- There is no clear definition of NAMAs in the Cancún Agreements or other documents and decisions.

What are NAMAs?

- Voluntary mitigation actions implemented by a developing country
- Any government sponsored policy, programme, or project that results in measurable GHG reductions compared to « Business as Usual » scenarios
- Meant to scale up both GHG reductions and finance provided under the CDM and other climate finance instruments



Financing NAMAs

The funding for NAMAS may come from the following sources:

- COP mandated public funds – Green Climate Fund (GCF)
- Non-COP mandated public funds – multilateral, bilateral national budgets
- Private funds – private sector investments and potentially the carbon market

“If you look at the potential cost of addressing climate, there is not enough public or private finance if you look at them separately. It is only when you creatively bring them together that you can begin to responsibly address the cost of climate.”



Christiana Figueres, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC)

NAMAs including waste management & recycling

- NAMAs should include sustainable waste management and recycling
- The sector has proven experience and capabilities in the following key elements of NAMAs:
 - ☑ Technology transfer
 - ☑ Policy examples
 - ☑ Sustainable development co-benefits
 - ☑ Capacity building
 - ☑ Monitoring, Reporting and Verification Methodologies
 - ☑ Financing of waste management projects
- **Of the 47 NAMA submissions that listed specific sector actions, approximately 33% included waste-related actions.**

Conclusion

- Improved waste/material management and Resource efficiency can be instituted through PPP
- There are proven and cost-effective waste management technologies and approaches that can be applied and deliver substantial improvements to waste management in LDCs.
- Sustainable waste management and recycling should be taken into account in the ongoing international negotiations (including NAMAs; extension of current Kyoto project mechanisms; new market mechanisms; sector approaches; access to funding...)
- It is essential that these messages are communicated to international, national and local policy makers to encourage the implementation of these local solutions which help to address this global problem.

Thank you for your attention !

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Annex 1: Examples of waste related actions for NAMAs

1. Conduct an evaluation of current waste practices
2. Conduct assessment to understand waste quantities generated and recovered, waste composition, and trends
3. Conduct an analysis of current waste policies and regulations
4. Evaluate existing informal waste recycling sector
5. Create a Public Awareness Programme
6. Develop a (baseline) greenhouse gas Inventory
7. Provide awareness training to change behavior
8. Develop / modify national waste management and recycling strategy
9. Establish appropriate regulatory enforcement strategy
10. Improve co-operation on waste policies on all levels (national, regional, and local)
11. Conduct feasibility study for most suitable integrated waste management and recycling system at a national, regional or city level
12. Establish plan to improve waste collection rates
13. Define strategy to Improve energy and material recovery
14. Ensure that all active landfill have proper environmental controls including LFG capture and recovery
15. Conduct specific landfill site feasibility studies
16. Establish recommended monitoring, reporting and verification programme

Annex 2: Submitted NAMAs with referenced waste actions 1/2

Country	Extract of Text
Argentina	The National Plan for the Integral Management of Urban Solid Waste is supported by a loan from the World Bank for the construction of sanitary landfills and landfill gas capture
Armenia	Decrease CH ₄ emissions from solid municipal waste and wastewater
Benin	The recovery of CH ₄ emitted by landfills in local communities with a special status
Central Africa Republic	The recovery of household waste (solid and liquid) from large cities for the production of green fertilizers and energy production (biogas)
Colombia	Colombia communicated that it is undertaking studies on its mitigation potential and on abatement cost curves for the transport, agriculture, energy, waste management and industrial sectors as part of its national strategy of low-carbon emissions development.
Costa Rica	On a preliminary basis, efforts will focus on the following sectors: (a) Transport; (b) Energy; (c) Forestry; (d) Waste management.
Ethiopia	9 specific waste management projects listed with quantified reduction and growth rate estimates
Gabon	The construction of waste and wastewater treatment centres; development under the CDM.

Annex 2: Submitted NAMAs with referenced waste actions 2/2

Country	Extract of Text
Ghana	Net CH ₄ emissions due to the inappropriate management of waste : promote waste separation and composting, support waste-to-energy initiatives; capture and utilize CH ₄ gas from landfill sites, and institute measures to minimize waste generation
Indonesia	A reduction in solid and liquid waste
Jordan	Recycling projects to improve solid waste management; Emission reductions from 8 solid waste management projects
Madagascar	Recover the household waste (solid and liquid) of large cities for the manufacturing of fertilizers and energy production (biogas, electricity)
Morocco	3 projects cited including CH ₄ capture from uncontrolled and uncontrolled landfills and wastewater treatment plants
Peru	The design and implementation of measures which allow the reduction of emissions caused by the inappropriate management of solid waste.
Sierra Leone	The development of agricultural and urban waste incineration programmes for energy production; Improved waste management through the composting and recycling of waste
Macedonia	GHG emission reductions at existing landfills, including the installation of CH ₄ recovery and flaring systems at some selected landfills; The construction of regional solid waste disposal sites;