

To **The European Commission,
Members of the European Parliament,
and interested stakeholders**

From gareth.phillips@pd-forum.net

Date 9 October 2012
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Subject Waste Management in the CDM

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Dear European Commission, MEPs and interested stakeholders

The Project Developer Forum (PD Forum), the Climate Markets & Investment Association (CMIA), and the International Emissions Trading Association (IETA) represent a large number of the companies which are active in the development and implementation of greenhouse gas (GHG) emission reducing projects, including landfill gas and waste to energy projects in the Clean Development Mechanism (CDM). See Annex I for more details.

The purpose of this letter is to address the comments and assertions made by the Global Alliance for Incineration Alternatives (GAIA) in their report entitled *The European Union's Double Standards on Waste Management and Climate Policy*, published April 2012 (http://www.no-burn.org/downloads/EU_DoubleStandards.pdf), and supported by the letter from MEPs and others to the European Commission and EU Member States www.endseurope.com/docs/120719a.doc.

Whilst we support the implementation of the EU's waste hierarchy (see Annex II), we believe that the suggestion that the EU is applying double standards in the waste sector is mistaken.

- Firstly, the EU's body of legislation is developed and applied within the EU and there is no basis to suggest that EU regulations should be applied outside the EU's jurisdiction. Nor are there requirements that trade or development assistance should be tied to compliance with EU regulations. Such trade barriers would be against WTO agreements. The concept of **common but differentiated responsibilities** enshrined within the Kyoto Protocol specifically recognizes that Parties have different targets and via the Clean Development Mechanism, Non Annex 1 countries are specifically encouraged to adopt new technologies and raise standards.
- Secondly, there are many landfill gas to energy, landfill gas abatement and waste to energy projects operational in the EU today and several accession states to the EU have benefited from carbon revenues from landfill gas abatement projects implemented in advance of 2012 deadlines. The presence of these technologies in the EU confirms that they are important stepping stones on the road to better management of waste. However, many developing countries still cannot afford the luxury of alternative waste management. Therefore, to cut the very limited support given to the waste sector in developing countries via the CDM (estimated at EUR 300 million over 7 years of the CDM to date) is likely to be counterproductive.
- Thirdly, the CDM is designed to support greenhouse gas emission reductions, not necessarily to affect the waste management method itself. **'Carbon finance' has proven to work to achieve emission reductions** and will in most cases make a significant contribution achieve long-term developmental goals for non-annex 1 countries.

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- Finally, we recognize that the treatment of waste in developing countries is a growing problem and that municipalities often struggle to deliver the necessary infrastructure to cope with waste effectively. We fully agree that **methane abatement, utilisation, recycling, reuse and prevention of waste should be encouraged as per the waste hierarchy**. Nonetheless, as we argue in the attached annex, CDM supported LFG and waste to energy projects represent net improvements in terms of GHG emissions with respect to the baseline situation and that they should be supported in the context where they constitute the most environmentally and socially viable methodology for waste management.

Overall, it is our conclusion that many of the assertions stated in GAIA's report are mostly either unsupported by facts or over-generalised (see Annex III). Waste problems are very different in developing countries when compared to the EU; indeed the composition of the waste itself is very different. What may work technically, financially, organisationally and socially in one country/area may not work in another. Although a move towards the Waste Hierarchy mentioned earlier (and reproduced in the Annex) should be the goal, implementing it requires additional financial, human and infrastructure resources that are often lacking in developing countries. The political process that led to the implementation of the landfill directive took a period of decades and it is not reasonable to expect the industry in developing countries to change overnight. Access to the CDM and the ability to sell carbon credits into the EU ETS reduces GHG emissions from, and improves standards of waste management in, developing countries. Enforcement of the Waste Framework Directive in Europe can ensure that regulations are fully implemented, and it is clear that incinerators and landfills have provided part of the European solution to date. However, in many developing countries, both mechanisms of enforcement of regulations and budgets for waste management are inadequate to deal with the waste problems in the same manner. For this reason regrettably it is likely that a large majority of waste will continue to be disposed of in dumps and sanitary landfills for the foreseeable future. In many cases the result will be methane emissions from this waste entering the atmosphere for many years to come, with its contribution to the increase in greenhouse gases and consequently accelerating climate change.

Landfill gas projects have a defined life span determined by the capacity of the existing landfill site and the decomposition rate of the waste. Unlike some other project types, landfill projects do not result in the long term lock-in of a particular technology. They offer a means of mitigating an existing problem for the medium-term, whilst better solutions are developed. In general, LFG projects make a significant contribution to both emission reductions and sustainable development (through employment, energy service provision etc.), and without the CDM the situation would be as before (prior to the CDM) where very little landfill gas was recovered, used and destroyed, rather it was emitted to the atmosphere.

Advanced waste-to-energy plants reduce a country's energy costs and reliance on oil and gas. They benefit the environment by diminishing the use of open landfills, reducing the physical footprint of waste disposal and cutting methane emissions from decomposition and carbon dioxide emissions from fossil fuel combustion for energy. Provided they meet suitable standards regarding emission levels from stack gas, they can make a significant contribution both to sustainable development in cities of the Global South without preventing the application of alternative waste management technologies upstream.

Consequently, we would argue that, considering the very real impacts of climate change and the high global warming potential of methane, the **European Parliament should be seeking to actively promote landfill gas management projects** within the CDM and finding ways to allow Certified Emission Reductions (CERs) generated from methane abatement and utilisation projects to have continued access to the EU ETS post 2012. Rather than discussing the exclusion of the waste sector from the beneficial financial structuring and regulatory oversight of the CDM, we invite you to work with us to focus public attention on the GHG reduction benefits associated with the informal waste recycling sector so that the public can reach a greater understanding of the importance of CDM in this context.¹

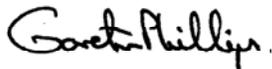
The CDM project development community has shown itself to be extremely inventive and effective at channelling private sector finance into sectors and economies that other policies have failed to touch. At

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the same time, many CDM project developers have demonstrated extreme sensitivity to the demands of the EU ETS and over a very short timescale have adjusted the direction of their efforts in response to qualitative and quantitative restrictions introduced by the EU institutions. For instance, a significant number of developers have changed their focus from "mainstream" CDM projects such as large scale renewable energy or waste heat recovery projects to rural and community development projects (including small scale renewable energy and energy efficiency technologies, water purification technologies, renewable biomass cook stoves, etc.) This demonstrates that appropriate incentives and positive cooperation, rather than critical public statements, can be used to achieve sustainable development objectives through the CDM.

The CDM is a mechanism should be celebrated for its contributions to improving the lives and livelihoods of millions of people in developing countries. It can also, in time, be used to improve waste management standards in those countries. However changes in waste management techniques will ultimately be driven by local sovereign legislators. We would welcome the opportunity to work with the EU to ensure that CDM projects help drive those countries closer towards the EU's evolving standards of waste management. Restricting CERs from waste management projects from the EU will only send that process into reverse.

Kind regards,



Gareth Phillips
Chairman, Project Developer Forum



Miles Austin
Executive Director, Climate Markets & Investment Association

ANNEX I – Who we are

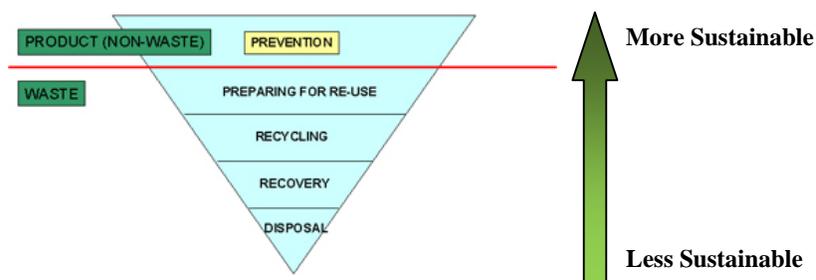
The Project Developer Forum (PD Forum) is a collective voice to represent the interests of companies developing greenhouse gas (GHG) emission reduction projects in international markets under the Clean Development Mechanism (CDM), Joint Implementation (JI) and other carbon emission reduction schemes and programs. www.pd-forum.net

The Climate Markets & Investment Association (CMIA) is an international trade association representing firms that finance, invest in, and provide enabling support to activities that reduce emissions. CMIA's membership accounted for 75 per cent of the global carbon market in 2010, valued at approximately USD 120 billion. www.cmia.net

The International Emissions Trading Association (IETA) is a non-profit business organization created in June 1999 to establish a functional international framework for trading in greenhouse gas emission reductions. IETA's membership includes leading international companies from across the carbon trading cycle. IETA members seek to develop an emissions trading regime that results in real and verifiable greenhouse gas emission reductions, while balancing economic efficiency with environmental integrity and social equity. www.ieta.org

The purpose of the Designated Operational Entities and Independent Entities Association (D.I.A.) is to be an independent, not-for-profit organisation dedicated to the development and establishment of effective processes and criteria for and related to the determination and validation and verification of emission reduction and sequestration projects and to represent the members at relevant bodies of the United Nations Framework Convention on Climate Change (UNFCCC) and other Green-house Gas ("GHG") programmes that accept UNFCCC accredited bodies to carry out determination and validation or verification. www.diassociation.org

ANNEX II – The Waste Hierarchy as described in the EU's Waste Framework Directive 2008/98/EC and the EU Resource Efficiency Roadmap



N.B. 'Recovery' includes energy utilization

ANNEX III – Comments on the main assertions on the GAIA report

All sources used to substantiate our comments are listed at the end of this annex.

1. *The CDM's promotion of waste disposal technologies intrinsically contradicts European waste management standards, which seek to minimize disposal in favour of best waste management practices such as organics diversion and recycling.*

The **CDM does not promote any one approach to waste management** – it is seeking to reduce GHG emissions and provide sustainable development and technology transfer to host countries. In fact, the existing methodologies include, in principal, all waste management practises. Over 100 CDM projects for composting waste are already in the pipeline, as are other recycling projects. CDM provides incentives for many waste management options and is always open to development of new approaches through the submission of new large and small scale methodologies. The technologies actually applied are those that are appropriate and cost effective, including carbon finance, for the particular situation. The existence of these types of projects does not contradict the EC Directive where prevention of waste is still the most ideal. Instead, the existence of these types of projects reflects the fact that a variety of waste management technologies are relevant and often complementary, just as in the EU where, for example, many member states continue to incentivize abatement of GHG through the generation of electricity from methane produced from waste.

The **CDM has established safeguards to ensure that it does not prevent domestic climate action** in developing countries. For instance, the current domestic policies and regulations for specific treatment of waste are taken into account in the independently validated baseline of CDM projects (for example, in Brazil all LFG projects have a baseline of 50% methane destruction), and CDM procedures ensure that carbon financing is not seen as a barrier to the development of emission reducing policies (E+/E- guidance). Despite these safeguards, we have not seen developing countries implementing the kinds of regulations that the EU has put in place.

The removal of the CDM incentive to abate methane emissions from landfill gas will not act to create the necessary incentives for more expensive alternative technologies of managing waste in developing countries. Many developing countries lack a landfill tax (or any other incentive measures present in the EU) to support expensive waste management options so without the CDM incentive, open landfills without methane capture would be the *de facto* waste management option (as they predominantly were before CDM existed). This would result in a significant increase in GHG emissions, which as highlighted in the GAIA report, have very significant climate change impacts.

Often, in developing countries, **recycling happens before waste reaches its final destination and therefore implementing a waste management system would not dramatically reduce recycling rates.** By the time waste is disposed, much of the useful materials which have market value (e.g. metals, glass, paper/cardboard, wood, plastic) have already been removed and recycled providing industry with an alternate source of raw materials, and people with an income or useable material for housing, fuel and other uses. This may be done either formally or informally, with the latter through 'waster pickers' being the most prevalent recycling occurring in developing countriesⁱⁱ.

Good quality compost requires segregation of waste at source which is still difficult to implement even in many European settingsⁱⁱⁱ. Thus, it is hard to support the argument that the implementation of landfill gas or waste to energy projects is the obstacle which is preventing the generalization of composting in the global South. Furthermore, the waste that reaches the dump or sanitary landfill in developing cities contains organic matter but it is also contaminated with other materials including unrecyclable matter and heavy metals, which are not safe for introduction to the food chain.

2. *One third of CDM-backed LFG systems are pure waste disposal without resource or energy recovery – those LFG projects that only flare. Within the Waste Hierarchy, waste disposal with and without energy recovery are the least environmental options.*

Indeed, of a total of 24.688^{iv} million CDM carbon credits issued for landfills 37% have been issued to flaring only projects. The flaring only projects tend to be much smaller so the economics of power generation are insufficient to allow the gas to be used: higher carbon prices would alter this dynamic in favour of greater use. In some cases, flaring only projects may include power generation in a second phase, when methane quantities are better known.

In many cases these flares are operating at waste disposal sites that have been closed for tipping some years ago and the CDM projects represent pure mitigation of the consequences of historic actions. These sites are still emitting methane and the least sustainable option would be just to leave them contributing to greenhouse gas emissions. These flaring only projects have succeeded in abating 9.138 Million tonnes of CO₂ equivalent – a significant amount of emission reductions equivalent to about 15% of the Republic of Ireland's annual GHG emissions, or 85% of Latvia's most recent annual emissions.

Furthermore, these emission reductions are highly additional: since there is no other source of revenue from these projects, without the CDM or a direct payment from the host government, there would be no way to pay for the costs of capturing and destroying the methane. In Europe flaring is required on all landfills, and is widely used on smaller landfills for the same reasons as given above. It is paid for through the taxes collected by municipalities or landfill operators.

Also, it should be noted that as CDM has evolved, several host countries have put in place requirements to use landfill gas captured to produce energy as a key element to host country project approval.

3. *The CDM creates a perverse incentive to landfill as much waste as possible, in contradiction to the Landfill Directive (1999/31/EC). Since the CDM promotes landfill gas capture on a profit-basis, i.e. the more gas one captures, the more profitable the project will be, landfilling of MSW – especially organics – is ultimately encouraged in this counterproductive climate mitigation strategy;*

As mentioned before, **CDM does not favour one waste management strategy over another.** GAIA appears to ignore that CDM incentives are also available for other technologies such as waste recycling, waste composting and more efficient use of resources. The reality is that once all valuable materials have been removed by the informal systems that both GAIA and we support, the remaining largely organic material simply cannot be composted in sufficient quantities.

CDM does not provide an incentive to landfill more waste than it would have been land filled in the baseline:

- All waste CDM projects are registered based on a baseline validated by the UNFCCC which includes the amount of waste that will be tipped (or already has been tipped) at a waste site. Steps to increase the volume of waste will trigger a revalidation exercise in which the project would need to prove that the revised project is still not financially attractive without the CDM. If the project has changed such that it is attractive, no further CERs will be issued to the project.
- If one reviews most of the registered CDM LFG projects which have been issuing CERs (many have not yet done so), most have waste tipped well below the estimated baseline^v and significantly less gas is being captured than was estimated^{vi}. If the CDM provided an incentive to landfill projects, waste tipping would increase in response to the incentive.
- Many of the recyclable materials (glass, plastic, metal, etc) do not contribute to generate landfill gas and therefore the gas recuperation in the landfill does not impede the

development of recycling programs for those materials. In addition, as mention above, much of the recycling in developing countries happens before the waste reaches its final destination so waste treatment projects at the end of the cycle would not reduce pre-landfill recycling rates.

- In most cases, the waste volumes and composition of the waste is not controlled by the project developer. Volumes of waste are typically governed through a waste tipping contract with the municipality (this is the main economic business of landfill site owners), and by the availability of waste from the municipalities.

Additionally and as mentioned before, **CDM does not favour one waste management strategy over another**. GAIA appears to ignore the fact that CDM incentives are also available for other technologies such as waste recycling, waste composting and more efficient use of resources. The reality is that once all valuable materials have been removed by the informal systems that we all support, the remaining largely organic material simply cannot be composted in sufficient quantities.

4. *At least 64% of CDM-backed LFG projects scrutinized by GAIA plan to stay open and receiving MSW during their crediting period. In this way, the waste keeps being landfilled and it produces the methane emissions that will be later captured, flared, and finally certified as emission reductions by the CDM. Consequently, emissions will actually increase at the same time as more carbon credits are earned for supposed "reductions".*

Constructing alternative waste management facilities of any kind will take many years to plan and complete. Landfill sites handle millions of tonnes of waste per year and have a long life expectancy. Strategic waste management must be planned by municipal authorities many years in advance. For a landfill project to be registered under CDM by the UNFCCC, under the, the baseline must take into account any domestic requirement for methane from landfills to be flared in that country^{vii}. The removal of CDM incentives will in no way affect whether these sites continue to receive waste, and therefore the methane emissions will continue for many years with or without the CDM. **In the absence of CDM, developers will have no further incentive to flare the methane arising from these landfill sites, or use any other technology to reduce GHG emissions so global methane emissions would immediately increase. In many cases, electricity generation without CDM support will no longer be economically viable and to the extent that existing investments allow, energy generation from land fill gas may also be reduced.** This would be a disaster for economic development, jobs, investment security in the waste sector and will lead to an actual increase in greenhouse gas emissions with no additional benefits to recycling, reuse or prevention.

5. *LFG systems entail too many uncertainties to reliably issue CDM carbon credits. Methane "capture" systems allow significant methane emissions to escape into the atmosphere but these uncertainties are not taken into account by the CDM. This allows landfill gas projects to make inflated predictions of methane gas emission reductions, which implies that these projects are issuing non-additional CERs.*

This is a misrepresentation of what happens in the CDM. Some early projects over-estimated GHG emission reductions in their design documents but this does not in any way imply that the projects are receiving non-additional CERs. The estimation of methane emissions from landfills is difficult, normally based on IPCC methodologies, and the CDM EB has described specific models and parameters that are to be used to improve the consistency of estimates. These estimates are used in the project design document as a basis for calculating, *ex ante*, the expected volume of CERs.

Nonetheless, once the project is implemented, the actual amount of methane captured, utilised and destroyed is monitored with a high degree of accuracy. The monitoring results are then scrutinized by independent verifiers then further scrutinised by the UNFCCC before any Certified Emission Reductions are issued to the developer. Some methane does escape because the gas

capture systems are not perfect, but this methane would have been released in the absence of the project and IS NOT included in the calculation of CERs. Furthermore, CDM project owners have additional incentives to maintain their sites and avoid leakage to capture as much of the LFG as possible. Landfill sites undergo regular audits by DOEs who check if the plants are running well: sufficient cover material to prevent air intrusion is in place, that piping systems are correctly maintained, adequate condensate knock-outs are installed, etc. The monitoring methodology ensures that that only gas which is actually metered – vs. estimated - just prior to being combusted by a flare, heat or energy producer, is eligible for CERs.

6. *CDM support for incineration provides an incentive to burn recyclable and compostable materials. This contradicts the waste hierarchy established by the Waste framework Directive 2008/98/EC and EU Resource Efficiency Roadmap, which gives priority to waste prevention and reuse of materials before energy recovery or incineration.*

After significant policy effort since the Landfill Directive 1999/31/EC, only 14% of the total municipal solid waste was composted in the EU 27 in 2010 even though it made up between 30% and 40% of the municipal waste stream^{viii}. Thus, many European countries are still disposing of a large portion of the organic waste together with the un-recyclable material. This fact illustrates the difficulties that the deployment of composting policy can face even in countries with relatively developed municipal recycling systems in place. Implementing composting systems in developing countries faces even greater barriers. A significant proportion of waste which ends up in landfills could be composted, but in practice, municipalities lack the resources to do this^x. Thus, the disincentive to compost organic waste that waste to energy projects could constitute in theory is not realistic in the current context of many cities in the Global South. In the absence of composting strategies, LFG or incineration systems present more environmentally attractive alternatives than open landfills to deal with organic waste since they represent net reductions in methane emissions with respect to the baseline.

Regarding incineration, 21% of the waste is incinerated in EU 27. This represents a proportion almost as high as the percentage of waste which is recycled. While Europe continues to consider incineration an acceptable management system for its waste, it cannot condemn waste to energy projects in non Annex I countries when they prove to be the most environmentally and socially viable alternative to open landfills. Furthermore, the fact that many countries which are expanding waste-to-energy capacity, like Denmark and Germany, also have the highest recycling rates (only the material that cannot be recycled is burned) illustrates that incineration and recycling can be complementary strategies.

<i>Municipal Solid Waste (2010)^x</i>	EU 27	EU 15
Percentage of waste recycled	24%	26%
Percentage of waste incinerated	21%	24%
Percentage of waste incinerated for energy purposes	17%	19%
Percentage of waste composted	14%	16%

7. *CDM incinerators generally lack pollution control. Strict monitoring of incinerator pollution rates is not required by the CDM, nor does it impose toxic emissions limits as a condition for the approval of these projects, as the EU waste legislation does. Consequently, CDM incinerators represent a major source of global toxic pollution.*

The PD Forum agrees that toxic emission limits should be imposed on incineration. Many existing waste to energy projects already use technology imported from Europe so they voluntarily comply with the EC Directive 2000/76/EC. Nonetheless, to ensure that this becomes common practice, the EC could request that host party Designated National Authorities (DNAs) ensure large CDM incineration plants comply with standards of the EC Directive 2000/76/EC for exhaust gas treatment

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and emission levels from stack gas in the same way that, for instance, retained water hydropower projects above 20MW are required to comply with the World Commission of Dams guidelines. Since, as explained above, "waste to energy" projects can be good waste management solutions for developing cities, regulating toxic emissions would deal with an important concern while enabling the deployment of an environmentally sound technology.

8. *CDM incinerators require fossil fuels alongside municipal solid waste in order to burn the organic waste fraction. The CDM rules for waste incineration allow up to 50% of the energy generated by an incinerator to be from auxiliary fossil fuel. Incineration of such wet wastes with added fossil fuel does nothing to abate climate change and has serious implications for CDM's environmental integrity.*

The phrasing of the report is tendentious. It is true that the methodology allows projects to generate up to 50% of the energy generated using fossil fuels. Nonetheless, considering the data published in the PDDs of the 11 incineration projects which have been already registered, all but one of the projects will produce less than 5% of the total energy generated burning fossil fuels. It should be noted that the one project which does not comply with this condition (CDM03578) was registered in 2009 and would not now be eligible for CDM registration under the current methodology. Furthermore, this project will cease to be a CDM project soon, as it will not be able to renew its crediting period.

ID	Ref	Title	TJ of fossil fuel / Total TJ generated (calculated from total energy input from waste and fossil fuels)	Type
CDM03578	2446	Controlled combustion of municipal solid waste and sewage sludge and energy generation in Shaoxing City, People's Republic of China	53%	Coal and diesel
CDM04675	3480	Hanyang Municipal Solid Waste Incineration for Energy Generation Project in Haining City	No auxiliary FF	n/a
CDM04709	3525	Huzhou Municipal Solid Waste Incineration for Power Generation Project	2.20%	Diesel
CDM07147	3694	Yangzhou City MSW Incineration Power Generation Project	0.6%	Diesel
CDM03392	3837	Chengdu Luodai Municipal Solid Waste Incineration Project	0.4%	Natural gas
CDM03349	4824	Changshu Municipal Solid Waste Incineration Project	0.30%	Diesel
CDM06433	5297	Nanghai MSW Incineration II Project	1.54%	Diesel
CDM07294	5359	The Chengdu Jiujiang Municipal Solid Waste Incineration Power Plant Project	0.01%	Natural gas
CDM07770	5375	Zhoushan MSW Incineration Power Generation Project	0.21%	Diesel
CDM07210	5822	Xiamen Eastern Municipal Solid Waste Incineration Project	0.81%	Diesel
CDM03468	2378	Integrated Municipal Waste Processing Complex at Ghazipur, Delhi	No auxiliary FF	n/a

Assumptions

NCV of Municipal Solid Waste	6490
NCV of Diesel	42652
NCV of Coal (other bituminous coal as in PDD)	23290
MWh to KJ	3600000

Furthermore, in the context of the CDM, environmental integrity means that for every CER issued, there is a real ton of CO₂ emissions reduced that would not have taken place in the absence of the mechanism. Integrity is not affected by the use of fossil fuels since 100% of the use of fossil fuels is accounted for in the approved methodology AM0025 as project emissions and therefore no single CER is produced from electricity generated using fossil fuels.

9. *Most importantly, CDM-backed LFG systems and incinerators systematically ignore the informal recycling sector in their baseline scenarios, which often result in the displacement of their livelihoods and a negative impact to recycling rates. The informal recycling sector typically represents a work force of 1% of the urban population in the Global South and it can achieve higher emission reductions through recycling than CDM incinerators and RDF plants as the Indian case shows. The continued disregard for the impact of LFG systems and incinerators on existing recycling rates implies that emission reductions are overestimated and that these projects are issuing non-additional CERs.*

CDM backed LFG or waste to energy projects do not ignore the informal sector in their baseline scenarios. CDM projects must establish baseline conditions, including an examination of the existing waste flows and recycling rates which already include the impact of the informal sector. The latest version of the methodology already demands that any recycling rates are not reduced by the projects. As GAIA states in their report, the “*recycling sector typically represents a work force of 1% of the urban population in the Global South*” and the source reference goes on to estimate this at least 15 million people^{xi}. PD Forum members would support this observation. Due to the activities of these people, a very high percentage of the valuable material (wood, metal, cardboard, plastic etc) will have already been removed before it reaches landfill, either during collection, at sorting plants and transfer stations along the way where waste is concentrated for transfer in larger volumes to the landfill site, prior to tipping on the landfill or on the landfill itself after the waste has been placed. The waste composition profiles measured in these projects reflects this behaviour.

It is widely accepted that the working conditions of informal waste collectors in open landfills are below any acceptable health and safety standard and therefore, while there is a need to provide alternative livelihoods to the affected populations, uncontrolled sorting at landfills should gradually disappear^{xii}. As concluded by one of GAIA's source references^{xiii}, incorporating waste pickers into waste management and recycling programs can, in many cases, be socially desirable, economically viable and environmentally sound. It is recognised that recycling by waste pickers saves municipalities money by reducing the volume of waste that needs to be collected, transported and disposed of. In Jakarta it has been estimated that waste pickers reduce the volume of waste by 30 percent, saving the municipality fuel, equipment and labour costs and extending the life span of dumps and sanitary landfills^{xiv}. Landfill gas or waste to energy projects do not take livelihoods away from waste pickers as the waste is still picked and the valuable components removed irrespective of whether it goes to a CDM supported landfill or not. In addition, very often in countries with low labour costs, MSW is separated and processed before incineration using labour intensive methods creating a large number of formal jobs.

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- i Some progress in this direction has already been achieved with the development of *AMS-III.AJ.: Recovery and recycling of materials from solid wastes* which incorporates the informal sector. The development of more methodologies like this one would open the door to improve the livelihoods of workers in the informal waste-picking sector.
- ii US Environmental Protection Agency (2002), *Solid Waste Management: A Local Challenge with Global Impacts* and C. Visvanathan and Ulrich Glawe, *Domestic Solid Waste Management in South Asian Countries – A Comparative Analysis*, South Asia Expert Workshop (September 2006)
- iii According to Eurostat figures from 2010, only 16% of the MSW in EU 15 was composted and the figure goes down to 14% if we consider EU 27.
- iv CD4CDM – CDM Pipeline August 2012
- v CD4CDM – CDM Pipeline June 2012
- vi According to the CD4CDM – CDM Pipeline August 2012, landfill gas projects have an issuance success rate (CERs issued/ CERs expected in the PDD for the same period) of only 45%.
- vii CDM Methodologies: ACM0001 and AMS-III.G
- viii European Commission (2008), *GREEN PAPER: On the management of bio-waste in the European Union*. {SEC(2008) 2936}.
- ix Cointreau (2006). *Occupational and Environmental Health Issues of Solid Waste Management Special Emphasis on Middle- and Lower-Income Countries*. Urban Papers UP-2. The World Bank Group.
- x Eurostat (2010). Available at: <http://appsso.eurostat.ec.europa.eu/nui/show.do>
- xi The informal recycling sector in developing countries. Organising waste pickers to enhance their impact. Martin Medina, Grid Lines, Public Private Infrastructure Advisory Facility (PPIAF), The World Bank (October 2008)
- xii Cointreau (2006). *Occupational and Environmental Health Issues of Solid Waste Management Special Emphasis on Middle- and Lower-Income Countries*. Urban Papers UP-2. The World Bank Group.
- xiii The informal recycling sector in developing countries. Organising waste pickers to enhance their impact. Martin Medina, Grid Lines, Public Private Infrastructure Advisory Facility (PPIAF), The World Bank (October 2008)
- xiv The informal recycling sector in developing countries. Organising waste pickers to enhance their impact. Martin Medina, Grid Lines, Public Private Infrastructure Advisory Facility (PPIAF), The World Bank (October 2008)