FINANCING THE DEMISE OF WASTE WORKER LIVELIHOOD, COMMUNITY HEALTH, AND CLIMATE

INTRODUCTION

At least 15 million people around the world depend upon waste picking and the recovery of resources from waste for their livelihoods. Recovering waste resources through re-use, recycling, and composting serves to create many more jobs than waste incineration and landfills. For example, in the U.S., recycling sustains ten times more jobs per ton of waste than incineration or landfilling.[1]

Recycling and composting serve to significantly reduce greenhouse gas emissions by reducing solid waste as well as the need for significant raw material extraction, production and consumption.[2] Conversely, waste incineration produces more carbon dioxide (CO_2) per unit of electricity generated than coal power plants.[3] Landfills are one of the leading industrial sources of methane, a greenhouse gas that is 25[4] times more destructive to the climate than CO_2.

Yet what is of most immediate concern to communities facing incinerator[5] proposals are the extreme health risks posed. Even the most technologically advanced waste technologies produce hundreds of distinct hazardous byproducts including dioxins, heavy metals, halogenated organic compounds, and nano-particles.[6,7] Meanwhile, landfills emit toxic pollutants that can cause cancer, asthma, and other serious health effects,[8] and all landfills eventually leak and pollute groundwater.

Clean Development Mechanism (CDM) funding for incineration and landfills currently represents a lost opportunity to reduce pollution and help improve the welfare and standards of living of some of the poorest people in the world. Additionally, this funding incentivizes the destruction of valuable resources that would otherwise have been recovered with significant climate benefits. The following are a few examples of waste projects that have been approved or are being considered for CDM approval, and where there is growing community and waste worker opposition to the project.

Unsung climate heroes, waste worker at dump site in Manila, Philippines. Photo Credit: Gigie Cruz / GAIA

These studies serve to illustrate how—by funding the destruction of waste resources through incineration and landfill gas projects, the CDM is obstructing proven, durable climate stabilization strategies that support the long-term well being of communities and workers.

INDIA

CDM1632: The Timarpur-Okhla Waste Management Company Pvt. Ltd's integrated waste to energy project in Delhi[9]

Decades before recycling became popular in the West, communities in India were already served by an informal economy that recycled waste. In Delhi, these waste workers number in the tens of thousands and live primarily in slums. Recycling plastic, paper, and metals—anything that can be turned into cash—is often their only source of income.[10] While incinerators, known in India as Waste to Energy (WTE) plants, have faced enormous technical difficulties in becoming operational in India, a core concern for most waste workers has been the enormous threat that incinerators pose to their livelihoods.

Bharati Chaturvedi, the director and cofounder of Chintan, a Delhi-based NGO that works in partnership with a wide range of urban stakeholders, including waste workers, for environmental justice, states that more than

"It's our livelihood, it's our life—Stop privatization of waste!" Waste workers on Labor Day in Delhi, India. Photo Credit: Chintan

1% of Delhi's population sifts through garbage, recycling as much as 59 percent of the city's waste. "These waste workers are providing a public service—for free," she says. "Financing the building of thermal WTE projects effectively robs livelihoods from the poorest of the poor," she says, "Due to such perverse economic incentives for incineration, huge local skills in recycling are now being wiped out, skills essential for a sustainable society."

The Timarpur project in the North Delhi was the first Indian project designed to burn waste for power generation. After it was first built in the mid 80s, the incinerator operated for only three weeks and then had to be stopped because the waste supply was too low in calorific (energy) value, which is common of municipal waste in Indian cities.

However, this project was registered with the CDM in 2007, and now involves the processing of Municipal Solid Waste (MSW) into refuse-derived fuel (RDF) at both Timarpur and a new site—Okhla, in South Delhi. At the Okhla site the project includes a 16MW power plant using RDF and biogas, as well as a biomethantion plant.

The carbon credits for these facilities were generated based on the rationale that incineration (a) displaces fossil fuel use from other power generation sources, and (b) reduces the amount of methane emissions from organic waste, estimated at 262,791 metric tonnes CO_2 equivalent ($mtCO_2e$) per year. This rationale fails to account for the greenhouse gas abatement already resulting from the recycling activities of thousands of impoverished, local waste workers, whom it threatens to put out of business. A new report by Chintan has found that current annual emissions reductions from recycling efforts in Delhi (962,133 $mtCO_2e$) far exceed the potential of the Timarpur-Okhla project.[11]

The validation report from CDM auditor SGS[12] (September 2007) notes that: "no adverse environmental or social effects are expected to result from the project." Similarly, the Project Design Document of September 2007 claimed the project is founded on good neighborly relations with local residents. Despite these claims, in the spring and summer of 2008, residents of neighboring communities organized protests against the incinerator due to concerns about toxic dioxins, furans, and heavy metals such as mercury and lead that are expected to be emitted. Many of the carcinogenic dioxins are created during incineration of PVC or chlorinated plastic, which are common in the local waste stream. This public opposition led to considerable delays in commissioning the project.[13]

"We had managed to stop a number of these dubious projects in the past," says Gopal Krishna, a public health researcher at Jawaharlal Nehru University in New Delhi. "But this time around, in the name of carbon credits, fraudulent claims are being made with impunity." According to the Chintan report: "the Timparpur-Okhla RDF WTE plant, if built, will compete directly with informal recyclers for access to burnable waste and thus would be an effective increase in emissions."[14]

CHINA

CDM5442: Jiangsu Qidong Tianying Waste Incineration for Power Generation [15]

Waste disposal is increasingly recognized as a growing problem in China. By 2015, municipal solid waste (MSW) generation is expected to reach 179 million tons.[16] Most of this waste is currently dumped at sanitary landfill sites. China is the major recipient of CDM support for incineration and already has enormous and rapidly expanding incineration capacity.[17] There were 36 municipal waste incineration plants in operation in China in 2001, used to incinerate 2.9% of all treated municipal solid waste. By the end of 2005, China operated 67 MSW incinerators, burning about 12.9% of all the municipal solid waste being treated in China at the time.[18]

The two key drivers of this growth in waste incineration have been the desire to reduce dependence on landfills and a dwindling supply of local coal resources to fuel China's high dependence on coal-power generation. Yet a 2005 report from the World Bank warned that if China built incinerators rapidly and did not limit their emissions, worldwide atmospheric levels of dioxin could double. Despite the obvious energy, waste and development challenges currently facing China, recent months have seen a widespread eruption of protests against incinerator proposals across the country.[19,20,21]

A15MW waste incinerator has been CDM validated for the Qidong Town of Jiangsu Province, with the stated goals of promoting clean production of waste incineration and the development of recycling, offering 83 full-time

jobs, reducing thermal pollution and other polluting materials, and avoiding 57,275 mtCO2e of greenhouse gas emissions by replacing "normal" power generation.

In October of this year, a few miles southwest of the Qidong incinerator project, another waste incinerator project in Jiangsu was stopped after tens of thousands of residents protested against garbage incinerators being built too close to where they live. Local authorities sent 3,000 anti-riot police to disperse the crowd.[22] A reporter covering these protests in the *The Epoch Times*[23] quoted a local resident stating: "The pollution is pretty bad and harmful to our health. The smoke from burning trash contains toxic substances that can cause cancer. The government did not seek public comments before they decided to build the plant. There were a lot of people protesting when the plant was being constructed."

The incinerator, owned by the Wujiang Trash Incinerator Company, was sited only 0.6 miles away from Pingwang Town and 160 feet away from the closest residential area. There are daycare centers, elementary and junior high schools within a radius of 0.6 miles, with the nearest daycare center only 0.3 miles from the plant. Protesters demanded that authorities stop the project and tear down the incinerator. Following the protest, the local newspaper *Yangtse Evening News*, which is run by the state, published a notice from local officials indicating that due to public concerns the plant was being shut down.

Similar mass protests against trash incineration plants have occurred in Beijing, Nanjing, Guangzhou and other cites as a result of health problems.[24] At a November 23rd protest in the southern city of Guangzhou, nearly a thousand farmers and city residents gathered to voice opposition to an incinerator planned for the town of Pangyu. The protestors raised concerns about health risks as villagers near another garbage incinerator in Baiyuan District of Guangzhou had confirmed more than 50 deaths from cancer after its operation.[25] Following the protest, the environment authority of Guangdong Province said it would commence public hearings over the construction of the incinerator.

Thousands of residents took part in recent incinerator protests in China's Guangdong Province. Photo Credit: www.nddaily.com

INDONESIA

CDM 0938: PT Navigat Organic Energy Indonesia Integrated Solid Waste Management (GALFAD) Project in Bali[26]

The GALFAD (Gasification, Landfill Gas, Anaerobic Digestion) project is planned as a multi-phase project that includes landfill gas (LFG) collection, a 2MW power generator using the recovered LFG, a pyrolysis gasification (staged incineration) plant to process the dry portion of the organic waste, and an anaerobic digester. To date, only the LFG collection facility has been built. Once all phases are complete, the electricity generation capacity is estimated to reach 9.6MW, and the estimated GHG reductions are estimated at 123,423 mtCO2e.


Composting workers play a key role in reducing greenhouse gas emissions, Bali, Indonesia. Photo Credit: Will Parrinello

Project proponents claim that GALFAD will avoid the release of methane from the breakdown of organic waste. However, in actuality the project would take organic waste that is currently used by local farmers to feed pigs, and throw it into the landfill in order to increase methane generation.[27] While some portion of these emissions could then be captured and burned in order to claim carbon credits, a significant amount would escape into the atmosphere. Like other waste incineration projects, GALFAD will actually increase GHG and toxic air emissions. However, this project also threatens to displace a highly successful local community-based recycling program, destroying the livelihoods of some of the most vulnerable workers.

Bali has a highly successful, environmentally sound community-based solid waste management program managed by Balifokus—a local NGO that promotes and implements appropriate, low-cost and decentralized wastewater treatment for small-scale industries and pig/cow farms in Bali and NTB—in cooperation with local governments and small-scale entrepreneurs/farmers in the region. The founder of Balifokus, Yuyun Ismawati, was a recipient of the 2009 Goldman Award that recognized her valuable contribution towards empowering the informal sector of waste workers through organized waste collection efforts that have created jobs that provide dignity and economic stability. The groundbreaking programs that

Ms. Ismawati has helped develop are thriving and yet, even as her work is recognized internationally, the worker-owned and managed waste cooperative she fostered is being threatened by the GALFAD project as the waste resources so carefully managed and recovered by the cooperative would instead be diverted to feed the landfill and incinerator.[28]

Recycling and composting programs like those supported by BaliFokus avoid toxic emissions, reduce the need to extract new natural resources, create dignified employment, and create value in the community. As Yuyun Ismawati explains, "It's not just about quantity. It's about the quality of people's lives, their dignity, and the respect they get in society. When people are empowered, they can solve their own problems."

Notes

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2. U.S. Environmental Protection Agency. "Solid Waste Management and Greenhouse Gases, A Life-Cycle Assessment of Emissions and Sinks 3rd edition," September, 2006
3. United States Environmental Protection Agency Clean Energy web page, "How Does Electricity Affect the Environment," http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html This analysis is based on smokestack emissions, including biogenic carbon emissions - as recommended by the IPCC for comparing emissions from different power generation facilities.
4. Methane has a global warming potential that is 25 times more than CO_2 over a 100-year timeframe and 72 times more climate than CO_2 over a 20-year timeframe. Methane only stays in the atmosphere for 12 years and its climate impacts are much greater in the short term. IPCC Fourth Assessment Report
5. The term "incinerator", in this report, is used to describe various thermal processing technologies, including both "mass burners" and "staged incineration" processes such as gasification, plasma arc, pyrolysis, and the use of refuse derived fuel, for power generation. For more information on these technologies: http://www.no-burn.org/article.php?id=731
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17. New York Times, "China's Incinerators Loom as Global Hazard", August 12, 2009, http://www.nytimes.com/2009/08/12/business/energy-environment/12incinerate.html?hpw
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21. China Daily, "Incinerator Project Goes Up in Smoke", November 3, 2009. http://www.chinadaily.com.cn/china/2009-11/03/content_8902673.htm
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25. http://news.xinhuanet.com/english/2009-12/01/content_12570750.htm
26. http://cdm.unfccc.int/Projects/DB/DNV-CUK1171518300.93
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ABOUT GAIA

GAIA is a worldwide alliance of more than 600 grassroots organizations and individuals in 88 countries, whose ultimate vision is a just, toxic-free world without incineration. The network's two-part strategy is stopping unsustainable practices and advancing solutions. Since GAIA's founding meeting in South Africa in December 2000, we have grown to support major civil society movements on every continent. Our greatest strength lies in our membership, which includes some of the most active leaders in environmental health and justice struggles internationally. To learn more about the inspiring work of GAIA members around the world please visit our website at www.no-burn.org. You can also contact any of the offices below or email Melissa Lago at melissa@no-burn.org.

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ZERO WASTE FOR ZERO WARMING Because no community is disposable!

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