



# Incineration: Wasted Money, Wasted Resources

Dozens of incinerators are currently proposed in the global south, where waste generation is rising. Touted as a safe solution to overflowing landfills, incineration is tempting many local governments. In reality, incineration is far from safe. In an upcoming report for GAIA, the Institute for Local Self-Reliance documents the economic pitfalls of municipal solid waste incineration. Here are some of our findings:

## **Incinerators are the most costly waste management option.**

Incineration requires large capital investments and incurs high operating costs. Net costs for incinerators are at least twice as high as net costs for landfills. Capital investment – usually running US\$50 million to \$280 million -- represents more than half of total costs. Recycling and composting facilities cost far less to build and operate. A recent World Bank report concluded, "...when applying waste incineration, the economic risk of project failure is high..."

## **Waste composition affects incinerator operation and finances.**

Most waste incinerators were designed and tested in industrialized countries and are far less suitable for the waste stream in less-industrialized nations. In the global south, the moisture content of waste is frequently above 40%. An incinerator in Surabaya, Indonesia, operates at only two-thirds of its capacity because the wastes need to be dried on-site for five days before burning. A \$10 million New Delhi, India incinerator was closed right after opening because waste was too wet.

## **Energy revenues are often over-estimated.**

Incinerator advocates often over-estimate anticipated revenues from energy sales, resulting in higher than anticipated operating costs. At Maryland plant (U.S.), actual electricity revenue was half of initial projections. This combined with other financial problems, spurred the local government to raise property taxes to cover costs.

## **Pollution control is expensive and does not eliminate pollution.**

Pollution control cannot make incinerators safe, but it does significantly raise costs. In Amsterdam, an 1,800 tonne-per-day facility cost US\$600 million with half this paying for air pollution control. Owners of the Sheffield, U.K. incinerator spent over 28 million pounds bringing the facility up to European standards. As a result, the local government can no longer afford to make debt payments and plans to sell it.

## **Incinerators often receive far less tonnage than they were designed to process, leading to financial problems.**

Incinerator operators typically count on a per tonne “tip fee” and a certain annual tonnage throughput to pay off incinerator debts and cover operating costs. When tonnage falls below projected levels, incinerators experience financial woes. In New Jersey (U.S.), the state provided a \$1 billion subsidy to five county incinerators that could not burn enough trash. In the global south, where a regulatory infrastructure is generally lacking, tonnage shortfalls would likely be common.

### **Lack of infrastructure in lesser industrialized countries may doom incinerators to financial failure.**

To be financially viable, incineration requires a fully developed and controlled solid waste system. This means guaranteed supplies of waste in terms of quantity and quality; a system for ensuring payment of solid waste charges; authorities responsible for control and enforcement; and skilled workers and adequate plant management. Less-industrialized countries often lack these necessary institutional arrangements.

### **Incinerators hamper least-cost options such as recycling.**

Incinerators need steady amounts of garbage to operate and pay off debt. Because of their voracious appetite for fuel, they lock up the waste stream and hamper recycling. Their high costs usually leave little money for recycling. For example, in Warsaw a funding organization granted a loan for an incinerator provided the city continued to finance separate recycling collection. However, after obtaining the loan, the city violated the agreement by cutting finances for its recycling program.

### **Incinerators put the livelihoods of wastepickers at risk and reduce overall business opportunities from recycling.**

Incineration is capital-intensive and uses little labor. In the U.S., just sorting recyclables sustains approximately 11 times more jobs than incineration. In the global south, material recovery activities are even more labor-intensive. An estimated 2% of the population in less-industrialized countries survives by recovering materials from waste. Incinerators put the livelihoods of these workers at risk. In and around Cairo, 928 enterprises employing thousands of workers recover 124,800 tons per year of discarded materials. However the new trend in Egypt to invite the private sector to manage solid waste, risks replacing the efficient informal sector’s door-to-door service with large-scale, inappropriate technologies.

Fortunately, numerous projects around the world demonstrate that recycling programs can reduce disposal at a lower cost than incineration. The challenge is to direct the millions of dollars slated for incinerators into waste reduction systems that maximize economic development opportunities.

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