BETWEEN THE LINES

An issue update from the *Blue Ridge Environmental Defense League*

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SOLID WASTE INCINERATION

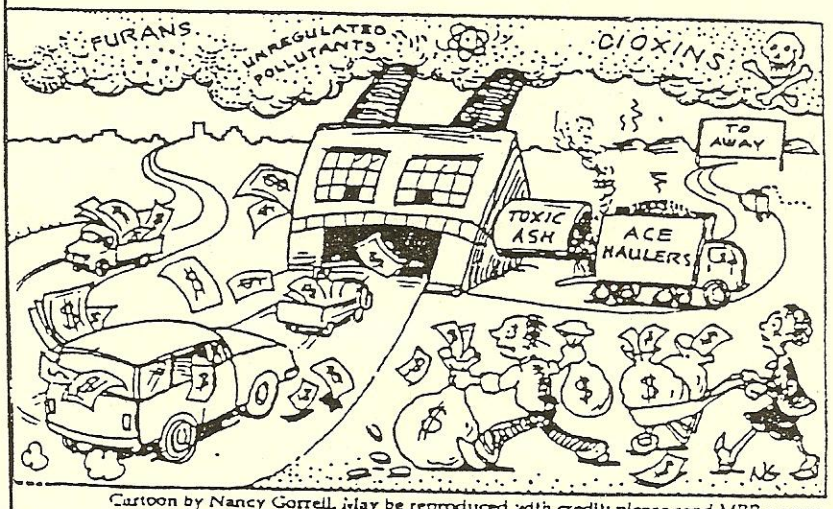
A Smokestack by Any Other Name Would Still Smell

Incineration of waste is an idea that, similar to Dr. Frankenstein's creation, is dangerous, is hard to stop, and takes on a life of its own. The burning of waste is a technology created in the 19th century. Whether the waste is municipal trash, sewage sludge, or toxic chemical we are talking about a reduction in volume accompanied by the creation and dispersion into the atmosphere of a variety of toxic and carcinogenic chemicals.

THE MYTH OF DISPOSAL

Incineration is not disposal; it is only change. Transmutation was the dream of alchemists who attempted to turn base metals into gold by chemical means. Modern theory of incineration indicates that the destruction of some compounds is possible, but no chemical process yet devised can destroy elemental substances. Some metals released into the air by incineration include toxins such as lead, mercury, and cadmium. This release occurs most at high temperatures and in the case of mercury at relatively low temperatures.

In practice, incinerators release a variety of synthetic chemicals that are among the most toxic known. Included in this category are chlorinated hydrocarbons such as PCB's, furans, and dioxins. The elements hydrogen, carbon, and chlorine are common in paper and plastics. When oxidized during incineration they form hundreds of these dangerous compounds. Thus, elements are not destroyed by burning, only recombined. Operator error and faulty equipment only exacerbate the problem.



Cartoon by Nancy Gorrell. May be reproduced with credit; please send MRR a copy.

FROM BAD TO WORSE

Modern environmental technology has developed methods of capturing some of the emissions from incinerator smokestacks. But this presents a new set of problems. The filters and "scrubbers" have merely taken pollution and concentrated it in a solid or liquid form which must in turn be disposed of. These materials are sometimes classified as "hazardous" under federal regulations and must be handled with special care. The burning process makes heavy metals more danger-

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-ous than ever because of the ease with which they can be ingested by living organisms. Incineration takes solid waste, creates and disperses toxic chemicals into the air and water, and produces a large volume of ash to be dumped in a landfill. The large capital investments in such facilities creates a situation that requires maximum use of the incineration at the expense of recycling. Garbage burners must be fed in order to operate efficiently and fulfill their primary purpose, making money.

"WASTE-TO-ENERGY"

Incinerators masquerading as facilities for energy recovery, refuse derived fuel, pelletized paper, and even materials recovery seek to benefit from the popular concern for the environment. Burning paper is an enormously inefficient way to produce energy. The energy recovered from so-called "waste energy" plants is but a fraction of what could be saved by recycling or re-use. Large amounts of energy are required to produce paper from wood pulp. Burning that paper for its relatively small heat value wastes that energy. The better solution is to reclaim both the energy and the wood fiber through recycling.

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WHY REFUSE DERIVED FUEL (RDF) DOESN'T WORK

Perceived advantage	A closer look
Less garbage going to landfills	Ash and other wastes still buried
The cost of operating a plant should decrease with time	Efficiency also decreases with age
Using RDF technology would involve converting existing powerplants	Upghrading and pollution control could drive up costs
RDF takes wastes and uses them productively	RDF pellets are often worthless

Source: Tennessee Valley Authority

9 PARTS POLITICS, 1 PART SCIENCE

A report prepared by a Los Angeles public relations and political consulting firm outlines industry plans for waste siting battles. Cerrell Associates was commissioned by the California Waste Management Board in 1984 to write "Political Difficulties facing Waste-to-Energy Conversion Plant Siting". It advises those who want to build trash-to-steam plants to pick a town with less than 25,000 people where residents are old, low income, politically conservative and Roman Catholic, preferably in the South or Midwest. It states further,"Commercial office spaces and residential lands that are at least within visual, hearing, or smelling distance of the waste project will likely experience a decline in property values."

INCINERATOR EMISSIONS

Some of the substances emitted by incineration are present before combustion takes place. In this category are arsenic, lead, cadmium, and mercury. Others are created by the burning process and include nitrous oxides, sulfur dioxide, hydrochloric acid, furan and dioxin. Research at the Center for the Biology of Natural Systems at Queens College, NY found that dioxin was produced by burning paper and plastic and that the chemical reactions occur after the gases leave the incinerator furnace and enter the stack where temperatures fall below 725 degrees F. Every municipal solid waste incinerator that has been tested has been shown to emit dioxins and furans.

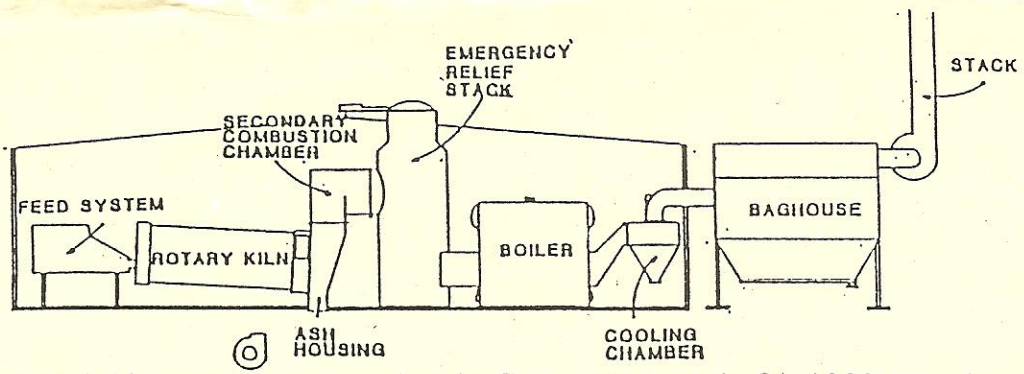
CHEMICAL	POSSIBLE HEALTH EFFECTS
NITROGEN OXIDES	Smog, acid rain, irritation of eyes and respiratory system
SULFUR DIOXIDE	Acid rain, respiratory irritant, burning eyes, headaches, nausea
HYDROGEN CHLORIDE	Acid rain, respiratory irritant
LEAD	nervous disorders, kidney damage, stillbirths
CADMIUM	kidney failure, hypertension, genetic damage
ARSENIC	nausea, liver damage, birth defects, skin and lung cancer
MERCURY	birth defects, nervous disorders, immune system damage
FURAN and DIOXIN	skin rash, reproductive disorders, liver disease, kidney cancer

MONEY TO BURN

The preferred "solution" to the waste crisis by governments at all levels is combustion. Incineration requires no change in garbage collection systems. Instead of being taken to a landfill the garbage goes to a nearby burn plant. Officials like incinerators because one large one can handle garbage from an entire metropolitan area. Moreover, the usual product of incinerators--electricity--can be sold on long-term, fixed price contracts to utilities, which makes it easier to sell bonds.

Incinerators are expensive, but even that provides an incentive. A $200 million plant generates $10 million in fees for investment bankers, local bond counsels, and underwriters. If local bonding authority is used, about $2 million may go into the general fund. These enterprises are so lucrative that one developer in southern California offered a nearby community organization $10 million to stop opposing a proposed giant incinerator.

Source: Institute for Local Self-Reliance



BREDL visited this waste-to-energy plant in Galax, VA on July 31, 1989. We observed boiler exit temperatures of 470 degrees F. Above 392 degrees F., arsenic and cadmium are released as a gas bypassing the baghouse filter. Even at the EPA standard stack temperature of 284 degrees mercury will be emitted into the local environment.

A 100 ton per day solid waste incinerator creates about 25 tons of ash residue. The metals captured in this ash contain on average 15.75 pounds of cadmium, 8.5 pounds of arsenic, and 337.5 pounds of lead. These toxic metals readily leach into groundwater when landfilled.

Source: Environmental Research Foundation

NC state officials are promoting regional incinerators and private and government incinerator proposals are cropping up all over NC. But citizens of NC communities have successfully stopped solid and medical waste incinerators in Alleghany, Surry, Lee, and Rutherford counties. Organized citizen opposition unified and uncompromising was the key in these battles in the war on waste.

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