

Rachel's Environment & Health News

#167 - As If The Future Mattered...

February 04, 1990

WASTE MANAGEMENT AS IF THE FUTURE MATTERED, by chemist Paul Connett, in 45 pages summarizes all the advantages of trash incineration, and all the reasons why trash incineration makes little or no sense for most communities. Because Connett stresses readily available alternatives to incineration, everyone concerned about trash will find this pamphlet useful.

The big advantage of trash incineration is that it requires no change in the habits of consumers, waste haulers, or manufacturers. A hole in the ground (the traditional landfill) is replaced by a hole in the face of a huge machine (the incinerator) and our throw-away society can get on with business as usual. Another advantage is that trash incinerators are the biggest boost to the construction trades since the heyday of nuclear power; all those multi-billion dollar incinerators represent high-paying (if short-lived) construction jobs; they also represent a boon to investment bankers, bonding agents, and their respective lawyers, all of whom skim a percentage from each dollar passing through the construction pipeline. Incineration also generates steam and electricity that can partially offset the enormous costs of building the machines. And, lastly, incineration substantially reduces the need for landfill space.

The disadvantages of trash incinerators form a much longer list: a) Incinerators are extremely expensive (a billion dollars or more for a 4,000-ton-per-day plant), all of which the public ultimately pays, whether through private fees or tax monies. b) Operation of an incinerator creates very few jobs. c) The need for landfills is not reduced by 90% as incinerator advocates often claim; the actual reduction is about 40%. This means that an incinerator will extend the life of today's landfills by a factor of 2.5, not a factor of 10. d) The energy recovery from incinerators is relatively small, compared to the energy saved when material is recycled. In fact, incinerators require so much fuel to burn the garbage that another 1973-style oil embargo would shut them all down. e) It is not easy to burn trash, and incinerators often need many costly repairs that aren't anticipated in the initial project budget. f) Incinerators are inflexible. Once built, they must be fueled with garbage for 20 years, making the community's trash unavailable for recycling; about 80% of the waste stream can be recycled OR incinerated but not both. g) Incineration wastes resources that could otherwise be reused or recycled; in the case of plastics, this represents the waste of a nonrenewable resource (oil). h) Incineration destroys discarded materials, which must then be replaced, leading to greater industrial activity with well-known negative side effects on the earth's deteriorating environment (greenhouse effect, acid rain, massive chemical contamination of air, water, soil, and food, and so on). i) Incineration is not a long-term solution, but merely puts off the day when we can initiate real long-term solutions; everyone with a shred of sense now recognizes that we cannot continue to operate a throwaway society on a finite planet--and incineration is just a way of denying that fact for a few short years. j) Toxics will make their way into incinerators for exactly the same reasons that toxics make their way into landfills, so a solid waste incinerator will in fact be a hazardous waste incinerator, and there is no realistic way to prevent this from happening continuously. k) Air emissions (hydrochloric acid, toxic heavy metals, and hundreds of toxic organic compounds inevitably created as byproducts of combustion) add enormous quantities of pollutants to the atmosphere, and most incinerators (more than 75%) are slated for areas that already fail to meet health-based air quality standards, and where cancer rates are already the highest in the nation. l) The ash from incinerators is toxic, laced with the heavy metals lead, cadmium, chromium, and arsenic, among others. Dr. Connett says, "Toxic ash is the Achilles heel of the incineration industry.... It doesn't make either economic or environmental sense to convert three tons of trash into one ton of toxic ash." It's a Catch-22: the better the air pollution control system, the more toxic the ash becomes. In many locales, cynical bureaucrats want to solve this problem by changing the name of the ash to "special waste," but as Dr. Connett points out, "This is based on convenience, not on science. As much as our regulators would like to believe otherwise, there is only one kind of lead atom, and that lead atom is toxic to humans. There is not a separate lead atom

labelled 'special!' m) It is as difficult to site an incinerator as a landfill; in fact, building an incinerator requires the use of a hazardous waste landfill for the ash, and hazardous waste landfills are the hardest of all facilities to site.

The siting of an incinerator is almost always accompanied by a "risk assessment" in which a consultant, or a government bureaucrat, tries to show mathematically that only a few people will be killed each year by the incinerator's pollution. However, Dr. Connett and Tom Webster from the Center for the Biology of Natural Systems, have shown[1] that typical risk assessments for incinerators 1) Usually don't consider "upset" conditions, which occur frequently though irregularly in an incinerator, but instead assume that the incinerator will operate smoothly and flawlessly for 20 years; 2) Don't consider all pollutants; 3) Don't consider multiplier effects (synergism) from exposure to many pollutants at once; 4) Don't consider existing health conditions in the affected populations; 5) Usually don't consider exposures through the food chain and usually underestimate food chain exposures when they are considered; 6) Don't consider effects on agriculture and related but distant effects from exported food; 7) Don't consider the cumulative impacts of all proposed incinerators (or other proposed sources of air pollution) in an area, state, or region; 8) Don't consider risks from ash handling and disposal. Such risk assessments are whitewash, not serious attempts to anticipate pollution consequences.

So landfills are out and incinerators are bad business. What are the alternatives? The real answer to our trash problems is a combination of social innovation and technology. We need a new institution--the "materials recovery facility" (MRF). Each community (or rural county) could have one of its own. Each MRF would have: a) a re-use and repair section; b) a waste exchange for household toxics; c) a composting section; d) a separation, upgrading and marketing section for mixed recyclables; e) a more mechanized section for screening of mixed residues prior to landfilling; f) a section to handle commercial waste; and g) a section to handle landscaping and building debris.

Connett says, "While no single community in the USA has yet pulled all these modules together, there are working examples of each module, and several combinations, operating successfully in Europe and the USA today." Many of these are illustrated in a videotape available for \$30 with the pamphlet.

Does it work? After two years of a mandatory recycling program North Stonington, Connecticut, recorded a 65% reduction by volume in its need for landfilling. After four months of recycling, Rodman, NY, achieved a 71% reduction by volume in its landfill requirements. As we have noted earlier (see RHWN #108), East Hampton, NY, achieved a massive 84% reduction by weight during a pilot study. The town of Neunkirchen, Austria, achieved 65% and 67% reductions by weight during 1986 and 1987.

Will people recycle? In Hamburg, NY, they have a 98% participation rate in their recycling program because they simply refuse to pick up trash that is not separated. In Rockford, IL, a "trashman" in gaudy costume and polka-dotted truck inspects the trash of one household each week; if he finds zero recyclables, he awards the household \$1000. If no one wins one week, next week's winner gets \$2000.

Looking for one single source of information on solutions to the garbage crisis? This pamphlet is it.

Get: WASTE MANAGEMENT AS IF THE FUTURE MATTERED; single copies, \$3; bulk orders of 10 or more, \$2 each. From: Work on Waste USA, 82 Judson St., Canton, NY 13617; phone (315) 379-9200. Accompanying videotape: \$30. You will also want to subscribe to their must-read weekly bulletin, WASTE NOT, edited by Ellen Connett. \$35 per year. Order all from Work on Waste.

--Peter Montague

=====

[1] Paul Connett and Tom Webster, "Municipal Waste Incineration and Risk Analyses: The Need to Ask Larger Questions." Canton, NY: Work on Waste [82 Judson St., Canton, NY 13617], July, 1988. \$2.50 per copy from Work on Waste.

Descriptor terms: incineration; alternative treatment technologies; reuse; recycling; waste not; paul connett; ellen connett; tom webster; studies; dioxin; air pollution; landfilling; msw; risk assessment;