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ZERO WASTE ACTIVISM TAKES ON GLOBAL WARMING

[Rachel's introduction: The phrase "zero waste" includes two different activities -- municipalities aiming to recycle, reuse or compost up to 90% of municipal discards ("trash"), and "zero waste manufacturing" also known as "designing for re-use," which aims to create products that can be endlessly remanufactured and reused. Both activities are important to the future of the planet.]

By Tim Montague

The the Big Three automakers are licking their chops over the [\\$14](#) to [\\$34](#) billion in tax-payer bailouts they hope to find in their Christmas stocking. Meanwhile, community based environment, health, jobs and justice activists are planning an important [Zero Waste Communities](#) conference in the Motor City February 6-9, 2009.

The conference will bring together community-based activists from the U.S. and Canada aiming to create jobs by phasing out dumps and incinerators. Unlike the auto executives who have resisted innovation and the manufacture of cleaner cars, these activists will be organizing, sharing ideas, and swapping business plans to create real economic opportunity for communities of color and/or low income.

The [Zero Waste Communities](#) conference is part of a broad trend that is changing the environmental movement in the U.S. Grassroots activists are increasingly committed to solving serious environmental and health problems by creating sustainable green jobs, and using global warming as a multi-issue rallying cry for justice and sustainable prosperity.

The "Zero Waste" conference, hosted by the [Coalition for a New Business Model for Detroit Solid Waste](#), is part of the global fight to stop landfills and incinerators from wreaking havoc on low-income people, indigenous communities, people of color, and the fabric of life on the entire planet.

The conference comes on the heels of a new report, [Stop Trashing the Climate](#).^[1] The 70-page report by [Eco-Cycle](#), the [Institute for Local Self-Reliance](#) (ILSR), and the [Global Alliance for Incinerator Alternatives](#) (GAIA) (who have also produced a 7 page companion statement [Zero Waste for Zero Warming](#) and [a video](#)) -- convincingly argues that governments can adopt [zero waste strategies](#) to greatly reduce their need for landfills and incinerators **and** combat climate change.

Dave Ciplet, an organizer with GAIA and one of the report's authors, says that the [aim of Zero Waste](#) is investing, "in the workforce, infrastructure and local strategies needed to reduce what we trash in incinerators and landfills to zero by a given year. It means stopping even another dime of taxpayer money from subsidizing waste disposal projects that contaminate environments and the people who live there."

As Rachel's readers know, there are many good reasons to find safer alternatives to burying and burning trash. Landfills and incinerators are major sources of toxic pollution that harm the environment and human health.^[2] The report makes it alarmingly clear that dumps and incinerators are also major sources of greenhouse gases (GHG), speeding us towards a world too hot for human habitation.

According to [the new report](#), we bury or burn nearly 170 million tons of [stuff](#) every year in the U.S. This is two-thirds of everything we make.(p.14) Only one-third gets recycled, re-used or composted.

[Typical household trash](#) is comprised of 59% organic matter -- an amount that equals 100 million tons (200 billion pounds) of wood, paper, food, and yard trimmings thrown away annually, according to the

U.S. Environmental Protection Agency (EPA). After you bury trash, bacteria convert the organic matter into methane and CO₂. Methane is a potent greenhouse gas that is up to 72 times more powerful at trapping heat than CO₂.^[3] Landfills are the largest producers of methane and consequently their gasses pose a threat to climate stability.(p. 14)

Burning garbage is a [messy but profitable](#) business. It takes useful material (wood, paper, metal, plastic, food scraps and lawn clippings) and converts it to heat and CO₂ (plus creating a brand new set of nasty chemicals like dioxins and furans). Then someone has to create all that stuff again. For every piece of paper that is burned or buried, a new piece of paper has to be manufactured -- starting with cutting down a tree somewhere, transporting it, chemically processing it, and so on.

The waste industry ignores the replacement cost of items that are burned or buried. They "greenwash" so-called "waste-to-energy" projects (aka, incinerators), proposing them as a 'solution' to the climate crisis, because they make something 'good' (electricity) from otherwise 'bad' stuff, like methane from landfills; or garbage that would otherwise take up precious landfill space.

Altogether, the report authors estimate that landfills and incinerators are directly responsible for 7% of our greenhouse gas emissions -- 5% from landfills and 2% from incinerators. What is important here, is that the 7% of greenhouse gas emissions produced by our garbage actually accounts for 37% of emissions if you take into account all the mining, logging, milling, oil drilling, transporting and manufacturing required to produce new stuff.(p.24)

The report advocates serious recycling of the raw materials present in discarded items, rather than burning or burying them. We could divert all the reusables, recyclables and compostables from the waste stream, capturing 90% of the material and reducing the nation's total greenhouse gas emissions in the process by at least 7%; today, in contrast, we capture only about 30% for reuse. This 7% reduction in greenhouse gas emissions would be equal to shutting down 83 (one fifth) of the nation's 417 coal-burning power plants forever.(p. 15)

But this could be considered an interim goal -- on our way to a zero- waste manufacturing society. Among the [12 principles of green engineering](#), principle #6 is to retain complexity when reusing or recycling materials. In other words, a bottle has been manufactured for a particular purpose. Its shape, its size, the varying thickness of its base and neck -- are all essential to its purpose. Those design features should be retained, rather than just crushing the bottle back to glass shards and remelting them into a new bottle. As Paul Palmer of the [Zero Waste Institute](#) points out, bottles should be marked with a special machine-readable code so that a sorting machine can process garbage and extract bottles into proper categories. Then the bottles could be re-filled, re-sealed and re-used many times -- just as bottles used to be re-used in this country before about 1960.

Electronic circuit boards -- the guts of our computers and cell phones -- should be manufactured in modules with the circuit diagrams published online so that they could be re-used in new products rather than being simply crushed and discarded. Their inherent complexity should be viewed as an investment that we should not throw away.

For every ton of trash that we landfill or incinerate in the U.S., another 71 tons of waste are produced during the mining, drilling, logging, processing, transporting, and manufacturing of those products.(p. 19) Burning or burying our municipal discards entails great replacement costs.

Since 1970, we have consumed one-third of the world's available natural resources -- forests, minable metals, fossil fuels, and so on.^[4] This enormous waste is the main reason why, if everyone in the world tried to live as we live in the U.S., [we would need six planet Earths](#) to provide the raw materials and places to throw stuff away. Our U.S. throw-away lifestyle is threatening the planet with [ecological overshoot and collapse](#), while producing [massive profits for certain industries](#).

Reusing, recycling and composting are threats to those major industries that profit from our single-use society. If we were reusing the 170 million tons of municipal discards that are currently going into landfills and incinerators, then we would effectively be reducing 12 billion tons (71 tons of waste times 170 million tons of stuff) of industrial waste. This is the kind of savings that could put us on the path towards real sustainability. We might actually be able to envision a no-growth, [steady-state economy](#) (gasp). (More on a steady-state economy [here](#).)

Although zero-waste manufacturing is not on the national agenda (yet) for many municipal governments, diverting usable stuff from landfills and incinerators is an idea whose time has come, and dozens of cities around the world are taking it seriously. As part of the [Urban Environmental Accords](#), cities like Oakland, Portland and Seattle have agreed to meet the goal of zero waste by 2040.(p.49) San Francisco (which already recycles close to 70% of its trash) has committed to increasing that proportion to 90% by 2020 -- and they are demonstrating that this can be done using today's technology with curbside recycling and composting programs.

Zero-waste manufacturing -- designing for reuse -- is going to get us beyond 90% recycling -- which slows our rate of raw material consumption but doesn't stop it -- to 99%. Some of the incentives for society to make that transition will include [extended producer responsibility](#) (EPR), which makes it industry's responsibility to design non-toxic, reusable, recyclable or compostable products. With EPR, the manufacturers of an item (such as a TV) retains legal liability for the item at the end of its useful life -- creating an incentive to manufacture with something in mind besides a landfill or incinerator, both of which endanger the environment and public health. (In the U.S., California is leading the way with a [Product Stewardship Council](#) with a very broad membership. The [Product Policy Institute](#) in Athens, Ga. has been instrumental in this important development; see their video, [Cradle to Cradle](#).)

The good news here is that we can now see unequivocally that we must change and that zero waste -- meaning both recycling **and** zero-waste manufacturing -- must be part of the solution if we are to get on the path towards sustainability. On our present course, the garbage stream will grow steadily from 250 million tons per year in 2006 to over 300 million tons by 2030 (an increase of 20%). With zero waste firmly in our decision-making toolkit, we can envision a world without a waste stream that poisons both future generations and ourselves.

Imagine if Congress had the creative insight and the guts to say no to the Big Three auto makers and yes to millions of green jobs and thousands of community-based economic engines (public works projects) based on the principles of resource conservation, [clean production](#) and [zero waste manufacturing](#). That would be a bailout worth fighting for, and one that would certainly help us step back from the brink of climate chaos.

[1] Brenda Platt, David Ciplet, Kate Bailey and Eric Lombardi, [Stop Trashing the Climate](#) (June 2008). www.stoptrashingthecclimate.org

[2] See for example, Michelle Allsopp, Pat Costner, and Paul Johnson, [Incineration & Public Health](#): State of Knowledge of the Impacts of Waste Incineration on Human Health (Greenpeace, Exeter, UK: March 2001). And, also: Cormier, S. A., Lomnicki, S., Backes, W., and Dellinger, B. (June 2006). "Origin and Health Impacts of Emissions of Toxic By-Products and Fine Particles from Combustion and Thermal Treatment of Hazardous Wastes and Materials." *Environmental Health Perspectives*, 114(6): 810-817.

[3] Over a twenty year period, methane is 72 times as potent a greenhouse gas as CO₂; over a 100-year period, methane's potency drops to 25 times that of CO₂ because some of the methane decomposes over time (it has a half-life of seven years in the atmosphere). The report authors use the twenty-year time period -- potency of 72 -- because of the urgency of the climate catastrophe and because of the potential benefits of reducing methane emissions in the short term. Dr. Ed J.

Dlugokencky, Global Methane Expert at NOAA says, "Scientifically speaking, using the 20-year time horizon to assess methane emissions is as equally valid as using the 100-year time horizon."(p. 7)

[4] Paul Hawken, Amory Lovins and L. Hunter Lovins, Natural Capitalism, Little Brown and Company, (1999), p. 4.