

THE FAUX ZERO WASTE MOVEMENT IS SPREADING

In 1974 I brought the term Zero Waste to public attention by attaching it to my company's name, Zero Waste Systems Inc. a chemical reuse company in Oakland California. The term has since spread around California, around the United States and now around the world.

Words move easily. Ideas are much harder to spread. And actions are the slowest of all.

So far, the only part of the triumvirate that has spread is the word. The rest are waiting their turns.

This article discusses faux Zero Waste so what would true Zero Waste be? As I use the term, it means tackling the difficult problem of how to redesign all of society's goods and processes so that nothing is designed for an early obsolescence followed by discard but, instead, is designed in many straightforward ways to be reused perpetually on many levels. Clearly this is a large effort, not for the faint of heart, but eminently achievable if one merely resolves to take on the effort for the sake of ending the continual exhaustion of planetary resources.

There is a problem which arose about twenty years ago which has prevented the ideas and actions of effective design-based Zero Waste from becoming widespread. It turns out that "Zero Waste" and "Recycling" are the two best greenwashing terms that the powerful garbage industry has ever found for building its business of converting usable goods into trash and then into garbage for their dumps and inputs for their incinerators. Both of these terms have been adopted to pretend that garbage generation is just dandy and **is not even happening**. Everyone knows that garbage is real but by using this greenwash, the garbage industry has injected a huge dollop of doubt into the public mind. Most people don't want to think much about it in the first place so if they can deposit their personal trash into a bin marked Recycling and if they are assured that garbage will all be recycled anyway and be reused, they don't need to spend another moment worrying about it. It's all under control. And when they are told that one company after another, one city after another all have successful Zero Waste plans, they can go back to sleep, at least for this problem, while they spend their time on other concerns like finding food to eat or, for environmentalists, working on the climate change problem. Cross one more problem off your list.

But what is a more incisive reality? In [The Death of Recycling \(1\)](#), I pointed out that the concept of recycling that has achieved currency is an end-of-pipe approach. This means that it does nothing to eliminate waste or garbage but it merely tries to treat it after garbage is created. It is a theory of garbage *management* only and one which has by and large failed to staunch the flow of garbage into dumps. Most of what is earmarked for recycling ends up in a dump anyway, though now anointed as "recycled". A tiny portion is reused in the lowest possible way, as a mere material, the least valuable portion of any complex molecular, electronic or mechanical assembly, achieving hardly any reuse worth mentioning. Most of the world's trash proceeds smoothly into a dump, where again, the existence of ragpickers allows the comforting assurance that every usable scrap is retrieved. And now the energy crisis lends support to the idea that by burning trash, and reclaiming the steam

for electricity, a free resource is beneficially reused. As though the huge loss of the planet's resources to the flame is somehow natural and inescapable like the rest of man's rape of the earth.

But what if we ask instead, how would a scientist seek a scientific solution to the problem of too much wasting. Industrialists and investors quite naturally seek to exploit the problem, exacerbate it, enlarge it and then use it as a platform for a post-discard technofix that requires additional investment, plant and machinery and generates a new profit to add to the Gross Domestic Product. A scientist would ask if the problem can be eliminated at its source, even if this subtracts from the GDP. Since the problem is caused by the purposeful design of products to fall apart in a short time and be discarded into a garbage can so that a new version can be sold, it is clear that the answer lies in changing the original product design and the social assumptions of use and reuse. Thus what I call true Zero Waste. In promoting this view, I am compelled to present a number of new designs to the world that would allow products to be reused over and over (2) without any discard ever taking place (3).

Many lowgrade definitions of Zero Waste, lacking any of this scientific underpinning abound. Here is one such, from the Zero Waste International Alliance: (4)

“Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use.

Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them.

Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.”

It is hard to find any environmental touchstone that is not held up for admiration in this charm bracelet of conventional hopes. The key is at the end of the first paragraph where ZW is explicitly based on finding uses for **materials** that have already been **discarded**. Like Emma Lazarus's plea inscribed on the Statue of Liberty, this group says send me your poor, your tired, your discarded materials yearning to breathe again. (5) Redesigning better products is nowhere in their sights. Most of the conventional definitions are of this ilk so it is no surprise that conventional planners end up confused about the meaning of Zero Waste.

In a diverse world, there should be a mix of some support for a true solution to excess garbage and other support for managing an add-on technofix but such is not the case. All of industry, commerce and politics align in preferring end-of-pipe technofixes. Compare the establishment approaches put forward for solving the critical problem of climate change. The elimination of carbon dioxide generation, while enthusiastically embraced by the public, finds no support in one international conference after another. Rio, Copenhagen, Doha, all resulted in no agreements to reduce carbon dioxide generation. The sexy approaches do include clean coal, which means taking CO₂ after it is generated in huge quantities and hiding it underground; a deception that is not even intended to work but is intended to sow

doubt to the public. Or perhaps injecting sulfuric acid aerosols into the atmosphere or sowing the oceans with iron or adopting incentives to plant trees and maintain forests. Meanwhile ever more fossil fuels are sought, such as natural gas by fracking or digging tar sands in Canada. Yes, real solutions get short shrift in this world.

Predictably, any proposal to eliminate garbage is rejected in favor of creating ever more garbage and processing it after generation.

This then, is the background behind a world wide spate of so-called Zero Waste plans adopted by political entities and declarations of intent adopted by companies. You may search to your heart's content but you will never find even one which proposes to eliminate garbage. Every single one of them proposes to increase the rate of post-discard recycling.

The use of terms of universality like “every” and “all” is dangerous. Surely there are a few counter examples. That presupposes that the creation of these plans is a semi-random affair with some diversity allowed. However the worldwide garbage industry and its iron grip on politics and the laziness of the public are fairly universal themselves. I have found no exceptions to the recycling claims of the plans I study. In fact, this is a field which lends itself to many universalities.

A more recent development has achieved widespread currency. Instead of aiming at simple ZW which might stir some thought of no waste at all, the new goal is “ZW to Landfill” (ZWTL). This sidesteps reduced creation by allowing as much waste as desired to be created while promising to process it afterwards before it can hit the dump. The post production processing is usually limited to three possibilities. First, recycling, in which the outputs are smashed or chopped and the materials are captured. An example would be wooden pallets which are chipped up for burning or mulching, or cardboard which is sent out for fiber recovery. Second, incineration is sold as a recovery of energy, even though most of the energy is lost and no materials and no commodities are reused. Lastly, there is composting which in the world of recycling is considered to be a special, almost magical process, for getting rid of organic matter that can be broken down by microscopic organisms. While composting sounds like a plan for enriching soil, in this focus on not sending things to a dump, it is treated primarily as a way to avoid the dump, (to “get rid of crap”) and the value of the output is secondary.

ZW=Zero Waste
ZWTL=Zero Waste to Landfill
GDP=Gross Domestic Product
ADC=Alternative Daily Cover

As a pure ZW process, composting is only one of thousands of ways to close resource cycles; in this case the agricultural cycle. A simple but realistic ZW analysis shows that the output must add nutritive values to the soil so that the nutrient cycle is closed. However, when recyclers do composting, the nutritive value is not critical, so long as organic matter is disposed of.

As a typical commercial plan, we can look at the Toyota Corporation which is very proud of its ZWTL plan. (6). Their report starts out: "Creating a recycling-based society is one of the action guidelines in the Toyota Earth Charter." They continue to explain that they bale up plastic for melting and recycling. The thought of making reusable plastic pieces is not on their agenda as it would be for a true ZW approach.

Companies have a great deal of control over internal practices compared to political entities. New York State has a Zero Waste plan (7) that starts out: "*New York State ... has prepared a new State Solid Waste Plan that recognizes that materials in our waste stream are valuable and need to be preserved. We strongly endorse its preference for waste reduction, reuse, recycling and composting over disposal. The less waste we dispose of the more environmental, economic and social benefits that we will enjoy.*"

Aside from its myopic focus on materials, this reveals another tendency of such plans. They tend to gush over unspecified social advantages of their plan, as though they were planning for Nirvana Through Zero Waste. They adopt disposal into a dump as the index against which reuse is measured, as though dumps were divinely ordained rather than a deplorable historical leftover. Resource conservation on its own, just living lightly on the planet, is apparently not a sufficient goal unless it affects discard and disposal somehow. The unfortunate fact that no plan addresses is that each of these plans is headed straight for failure. Even if reduced waste disposal could indeed lead to social benefits, those benefits will never be enjoyed. Recycling can never be accomplished in the stratospheric percentages these plans assume is around the corner. The sheer number of players and the huge shift in conscious practices that such a program depends on are essentially impossible unless New York becomes a draconian environmental dictatorship and even then, it seems unlikely that any kind of enforcement could achieve such results. However, these plans are not expected to succeed. The important thing is to promulgate magnificent plans, then forget them. Plans for repairing potholes or community policing – these may be theoretically achievable but politically unrealizable. If a ZW plan based on recycling can't even succeed theoretically, what difference does it make?

The Citizens Environmental Coalition of NY, involved in creating these plans, writes this typical summary (8) of Zero Waste:

What is Zero Waste? Our current system of production is designed in a way that accepts and even encourages waste and inefficiency. ... that ... ignores the resources and energy that went into resource extraction and manufacture, the toxic emissions and contamination, water use and community impacts that are involved in production. It also ignores the transport of raw materials, intermediate and final products to customers using fossil fuels and generating pollution. Packaging and used products eventually make their way to landfills and incinerators for disposal with more toxic emissions and contamination of land and water

It sounds reasonable insofar as it recognizes the wastefulness inherent in the design of products and processes that bring goods to consumers. It doesn't focus exclusively on the

end stage of discard. The obsession with packaging is fashionable now. Will this statement lead to proposals for changing the way that products are designed or made? No, and the logical contradiction will not be recognized. The report goes on to admit regretfully that the recycling rate in NY is “only” 20%. In fact, recycling rates are a fiction, having virtually no theoretical meaning and therefore capable of being adjusted, invented and boosted by those with a stake in them. 20% probably means that a cursory study arrived at 10% but that was considered too embarrassingly low.

In Marin county California, which also has a ZWTL plan, the politicians constantly quote a recycling rate of 72%. This makes them sound very progressive but they decline to explain where the number comes from. Aside from the fact that these rates are outright fabrications, there is a special law in California which was passed for the sole purpose of raising quoted recycling rates. An earlier law, AB 939 in 1989, demanded that recycling rates had to rise by a fixed amount every year but this demand could not be met. So state legislator Bustamante introduced AB 1647, a law, which passed in 1996, that allowed garbage which was disposed of in dumps to be counted as recycled under very broad and liberal conditions. (9)

(From AB 1647) Provides that the separation or other processing of solid wastes at a solid waste landfill and used at the landfill for productive purposes or diverted from the landfill for other uses is not "disposal" for purposes of the law, and may be counted by local agencies in meeting solid waste diversion requirements..

The bill introduced the concept of Alternative Daily Cover which was any element of the garbage stream that could be placed on top of the dump pile at the end of every day and designated as a cover to keep off “varmints” - sea gulls, rats, squirrels etc. The law conveniently failed to specify how long a “day” was. Garbage could also be counted as recycled when it was used in a dump to create berms, walls, dikes, hills or roads. Berm walls can be filled, creating a need for new berms. Suddenly recycling rates soared.

The city of Palo Alto (10) provides a classic and instructive example, which has been repeated across many continents. Their Zero Waste plan was created by Gary Liss and Associates. It is shameful that this wealthy city in a self-styled progressive state fails to state a fundamental or insightful approach to Zero Waste.

Zero Waste ... focuses on reusing materials and products for their original intended uses, and then for alternative uses, before recycling. Once materials have been reduced and reused as much as possible, then Zero Waste focuses on recycling and composting all remaining materials for their highest and best use. Zero Waste encourages local and regional public-private partnerships to develop Resource Recovery Parks to provide the infrastructure and services needed to accomplish all of these functions.

The plan emphasizes materials as we have come to expect. Reusing products for original and alternative uses? How can products that are designed for quick obsolescence be reused? In thrift shops? On Ebay? For one or two percent of products this might work, but this is a plan for ZERO waste, not 98% waste. Where did the Resource Recovery Parks pop

up from? These are typically parks where industrial manufacturers congregate to share their byproducts. Is Palo Alto going to redefine itself into an industrial center, manufacturing most of the products it buys? Highly unlikely! No, all this seems to mean is a dumpsite with a reuse kiosk.

It just so happened that In 2008, a Mr. Wenschhof of Maryland interviewed the solid waste managers of Palo Alto for background on a project of his own and states that there are still no Resource Recovery Parks in Palo Alto (11).

The lack of any actual progress in implementing this plan is no accident. In the wrap-up to the Plan, we are finally told the bare truth:

practically, if the City diverts at least 90 percent of the waste generated by all sources (residential, business, schools, and institutions), it will be well on the way to Zero Waste and the program will be deemed a success.

This is a plan for recycling, pure and simple. The term ZW is a meaningless slogan. This is not a plan for anything innovative. And remember, when considering recycling rates, that this city is in California and subject to the Bustamante easement (above) for bumping up recycling rates. Would it be too cynical to remark that if you need a 90% diversion rate, just count 90% of your garbage dumping as recycling?

The authoritative view on this subject is not mine but that of a student of such plans, Robert Krausz. Robert has been studying these plans for a long time and is finishing up his thesis as I write this. He reports (12) that there is not a single example anywhere in the world that he can find of a recycling based ZWTL plan that has succeeded. By now there are hundreds of such plans which have run their self-declared terms and yet not one of them has come close to the 100% recycling rate that the planners put forward years earlier as a practical and achievable goal. I give him the last word.

“At some point, the reality check comes when it becomes apparent that little has been done to address the top-of-pipe issues of poor product design, problem materials, and overconsumption. At this point of reckoning, even the cities that have achieved high diversion rates (fudged or otherwise) will be forced to acknowledge that their waste to landfill rates are still high and in some cases still increasing. At this critical juncture, the proponent has to make a choice whether to continue onwards, or simply abandon the initiative. Many initiatives are abandoned at this point (eg: many in New Zealand, Canberra, Toronto).

For those that decide to continue, there's another choice to make: either (1) Undertake a paradigm shift in thinking on waste, which involves significant behaviour change, fundamental changes in product design, shifts in material choices, etc; or, (2) Put hopes into 'new and emerging technologies' for waste processing - many of which are only speculative and have not yet been proven to work. My research shows that governments tend to always go for Option (2), because it involves the least behaviour and other fundamental changes - ie: the least sacrifice to sell to the public and to industry. This, I believe, is a crucial mistake,

because it is Option (1) that is the path to ZW success - mainly because it is based on proven principles for waste elimination vs. technological fixes that are unproven.

Lastly, the reason why I believe proponents always go for Option (2) - and why they even bother declaring ZW goals that they keep failing at - is because they are failing to recognize just how big an undertaking a ZWTL initiative is. ZW requires fundamental shifting in the very way we live - and yet proponents launch ZW initiatives as if they were just a simple matter of getting everybody to recycle and there'll be no more need for landfills. By failing to understand the scope of what ZW requires, the initiatives are doomed to fail from the outset."

Given all the above, the obvious question we must ask is this: if ZWTL plans are such a rampant failure, why does one entity after another embrace them anew?

The answer is not hard to find. One environmentalist's failure is another politician's success. In politics, many plans are intended to fail. The so-called War On Drugs is an abject failure in preventing drug use but, as Gabor Mate, the Canadian psychologist points out, to the people who fund and vote for it, it is a marvellous success at something else (13). The Clean Coal Initiative likewise. Coal companies make billions every year that they can postpone a crackdown on coal burning. And the ZWTL movement does exactly the same thing. If you hold stock in a smartphone company that churns out one unnecessary "upgrade version" every two years, and profits from obsolescence, the public hope for the success of recycling is a gift that keeps on giving. So long as the public can be dazzled with their stream of toys without feeling any guilt, life in the electronics world is good. Garbage and obsolescence are big business and anything that staves off change, decade after decade, is worth supporting. Garbage is the American way.

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1 – http://www.precaution.org/lib/07/prn_death_of_recycling.070322.htm

2 – For now, I set a minimal target of reusing products for a hundred years. Ancient structures have already been used for two thousand years, and many European homes have lasted five hundred years. Ceramics, stoneware and heavy metal objects routinely exceed this test and a ZW analysis does not come to a stop if something breaks, but designs for that eventuality and for the intelligently crafted reuse of materials for their highest functions at the end of a long life. ZW design actually is extremely subtle, unlike the naïve notions of it put forward by detractors.

3 – <http://www.zerowasteinstitute.org>

4 – <http://zwia.org/standards/zw-definition/>

5 – Emma Lazarus's poem that graces the Statue of Liberty reads in part:

"Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tossed to me,

I lift my lamp beside the golden door!"

6 – http://www.toyota.com/about/environmentreport2011/03_recycling.html

7 – <http://www.nypirg.org/enviro/solidwaste/New%20Yorkers%20for%20Zero%20Waste%20Platform.pdf>

8 – <http://www.cectoxic.org/ZeroWaste.html>

9 – <http://legix.info/us-ca/measures;1995-96;ab1647/analysis@1996-09-04;assembly>

10 – http://zerowasteinstitute.org/?page_id=27#palo and

http://zerowasteinstitute.org/zwpalo_alto_strategic_plan.pdf

11 – <http://airitoutwithgeorge.blogspot.com/2008/09/are-there-alternatives-landfill-or-wte.html>

12 – personal communication, September 4, 2012

13 – http://www.democracynow.org/blog/2011/6/6/dr_gabor_mat_more_compassion_less_violence_needed_in_addressing_drug_addiction *"When something is such a demonstrated failure on its own terms, one might then call it an honest mistake. But it's no longer honest when they keep ignoring the evidence. And you have to ask, is somebody benefiting from this? And maybe it's not a failure, except not on the stated terms, like other wars, which may have been failing on their publicly stated terms, but they're very profitable to somebody nevertheless."*