

## THE ZERO WASTE INSTITUTE NEWSLETTER

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I often like to take my text from a recent article which outlines a Zero Waste project, or principle, that the author doesn't even realize he is describing. This month, Scientific American carries an article called The Low-Cost Ticket to Space (1). It describes the emerging private space industry that is making trips into space

available to anyone who has the price of the ticket, not just government trained astronauts. Companies offering rides include SpaceX, Iridium, Virgin Galactic, XCOR Aerospace and a host of new ones in many countries. Some have made supply trips to the International Space Station and NASA has made contracts with private companies to provide this service. Others are specializing in sub-orbital trips, which take visitors, scientists or equipment into space for short term experiments. For many years, experimenters have complained about the low frequency of NASA's sub-orbital flights which has severely limited the ability of scientists to do space research. All that is changing.

Perhaps, like me, you thought the private space industry was just providing a chance for cheeky millionaires to boast about having been able to take a ride in a rocket ship in space. Perhaps you thought that providing rides to tourists would degrade the whole experience and leave discarded plastic water bottles to collect together to form a huge, orbiting island in space like the Gyre of plastic in the Pacific Ocean. This turns out to be a shortsighted view. Besides which, when you think about it, since when have governments worried about the sacred, pristine nature of any new frontier? Governments and military have already abandoned half a million objects from 4 to 10 centimeters in size, in orbit, that threaten satellites and space stations and must be tracked by space engineers to avoid fatal collisions. In an ironic twist, private industry is showing that waste is expensive and conservation of resources saves money, at least in this arena.

As the article points out:

*(These new launches) are expected to radically improve both the pace and the productivity of sub-orbital research. How is this possible? ... By flying reusable, rather than disposable launchers, these companies can dramatically lower flight costs and increase launch rates.*

Who would have guessed that all of those rockets the government and military are shooting into space have been just discarded after one use? Talk about the effect of spending other people's money, not your own. Now that is changing. The article mentions new launches that cost only five percent of government prices.

I have been advocating Zero Waste redesign for reuse for decades now and one of the objections I can always count on is the ready assumption that redesigning products intelligently will be expensive and "we can't afford it today. Maybe someday!" In these newsletters there are several examples of the simple cost savings afforded by intelligence, rather than stupidity in design. How could it be otherwise? Why would anyone think that unintelligent design is cheaper. And I'm not even talking about the external costs of

destroying the one precious planet we live on, a cost that actually overwhelms all of the trivial costs beloved of the economists with their commodities and services pricing. No, Zero Waste doesn't cost extra money, it saves money. But it may redirect those savings away from powerful industries with swarms of lobbyists into the pockets of the public in the form of savings on cheaper product capabilities. You can never talk about costs in a vacuum (pun intended). One person's savings are another's loss of industrial profit. Here we have a situation where the waste is so egregious and the necessity so stringent that even a private industry can see the need for a new design that eliminates wanton discard.

Would it also be worth noting that when a rocket ship is discarded in space and released to burn up in the atmosphere, there is no scrap metal to recycle? The recycling approach once again has nothing to offer. Yet functional reuse, the Zero Waste approach to preserving resource values, sails right on, totally appropriate and applicable.



The second source of information I want to take note of today, is a video, a documentary by John D. Liu called Green Gold, Greening the Desert. In this video, we see how permaculture, the theory of ecological food production that started decades ago in Australia and has spread around the world, can be used to recover exhausted, desolate, desertified lands back into highly functional ecosystems. Mr. Liu is a videographer and advocate for the almost magical ability of intelligence, as applied to soils and hydrologies, to create green, new ecologies on barren, rocky soil that was destroyed by centuries of human exploitation. In China, Jordan, Rwanda and Peru we see the results of his work and other permaculture workers. Bare soil in which nothing grows transforms into farms with vegetables growing among fruit trees, while water goes from muddy runoff to clear streams. Mr. Liu himself might never apply the term Zero Waste to his work but in his reliance on intelligent design for conserving high function, he is smack in the middle of Zero Waste theory.

See it at:

<http://www.therealfoodchannel.com/videos/food-and-environment/the-resurrection-of-nature.html>

These newsletters are archived at:

[http://zerowasteinstitute.org/?page\\_id=432](http://zerowasteinstitute.org/?page_id=432)

This newsletter is authored by Paul Palmer of the Zero Waste Institute. Find extensive descriptions of our work at <http://zerowasteinstitute.org/>.

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(1) *The Low Cost Ticket to Space* by S. Alan Stern, Scientific American (April 2013) p. 69