



## **Global Principles for Zero Waste Communities (as amended by participants of the Fifth International Zero Waste Dialogue, Naples, Italy, Feb 18-22, 2009)**

### **DRAFT**

#### **Preamble.**

The future of the human species, or at least a world population surviving with the standard of living as experienced in industrialized countries for most of the last century, has reached a crisis on at least three fronts: human and environmental health, sustainability and inequitable distribution of the world's resources.

Human and environmental health is threatened on a number of fronts: soils desertification (depleted of organics); electromagnetic radiation; nuclear radiation; air pollution in the form of aerosols and nanoparticles (ultrafine particles of less than 1 micron in diameter) which contain toxic metals, stabilized free radicals and many highly toxic and persistent substances like dioxins and furans; a rapidly decreasing supply of clean water, and substances emitted into the air which deplete the protective ozone layer and contribute to global warming. A child born today has literally hundreds of chemicals in its body due to industrial activities and waste disposal practices.

Moreover, an ever-increasing world population coupled with an increase in per capita material and energy consumption threatens sustainability of our industrialized societies as never before. One estimate indicates that we would need 1.3 planets to sustain today's world average per capita consumption; 2.5 planets if everyone consumed at the European level and 5 planets if everyone consumed at the U.S. level.

The problem of over-consumption, is compounded by prolific advertising, as well as non-sustainable waste disposal practices.

Since World War II bureaucrats and waste experts have argued the relative advantages and disadvantages of landfilling and incineration. Citizens who have lived with these end-of-pipe solutions want neither. Moreover, it is scientifically established that current waste disposal methods are polluting and damaging our health.

The Zero Waste strategy currently being developed in communities in Argentina, Australia, Canada, California, India, Italy, UK, New Zealand and , the Philippines, and several other countries, offers a way to combat the threats to human health, social and environmental injustice and sustainability.

This document outlines the principles and some of the practical steps being taken around the world in both large urban communities and small rural communities in the pursuit of zero waste. Zero waste programs are the fastest and most cost effective ways that local governments can contribute to reducing climate change, protect health, create green jobs, and promote local sustainability.

There are three overarching goals needed for sustainable waste (or rather resource) management.

- 1) Producer responsibility at the front end of the problem: industrial production and design.
- 2) Community responsibility at the back end of the problem: consumption, discard use and disposal.
- 3) Political responsibility to bring both community and industrial responsibility together in a harmonious whole.

Zero waste is a critical stepping-stone to other necessary steps in the efforts to protect health, improve equity and reach sustainability. Zero waste can be linked to sustainable agriculture, architecture, energy, industrial, economic and community development. Every single person in the world makes waste and as such is part of a non-sustainable society. However, with good political leadership, everyone should be engaged in the necessary shift towards a sustainable society.

Good political leadership in this matter involves treating citizens as key allies rather than the enemy in the battle to protect human health and the environment and in making the transition to a sustainable future.

## **The ZWIA definition of Zero Waste.**

The only peer-reviewed internationally accepted definition of Zero Waste is that adopted by the Zero Waste International Alliance:

“Zero Waste is both pragmatic and visionary. It seeks to emulate sustainable natural cycles, where all discarded materials are resources for others to use. Zero Waste means designing and managing products and processes to dramatically reduce the volume and eliminate the toxicity of waste, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water, or air that may be a threat to planetary, human, animal or plant health.”<sup>1</sup>

Zero waste involves moving from the back end of waste disposal to the front end of resource management. “If a product can’t be reused, repaired, rebuilt, refurbished, refinished, resold, recycled or composted, then it should be restricted, redesigned, or removed from production.”<sup>2</sup>

## **Principles and Practical steps towards Zero Waste.**

**We encourage ALL communities to:**

**1. Adopt the Zero Waste strategy** as defined by ZWIA.

**2. Establish benchmarks and a timeline** to meet interim and final goals. Communities should aim to make significant strides within five years, and consider ultimate success to be diverting at least 90% of waste generated from landfills and incinerators by a date certain.

**3. Engage the whole community.** It is important not to leave zero waste to “waste experts.” Many different skills need to be deployed in the movement towards zero waste and sustainability. Everyone has a role to play. Citizens need to take the leadership role in organizing meetings to engage all sectors of the community. All agencies (NGO’s, grassroots movements and governmental) that provide waste reduction, takeback, reuse, recycling and composting services should be involved in order to achieve Zero Waste. All of these groups and individuals should be challenged to pursue Zero Waste at home, at school, at university, at work and at play, while their communities develop longer term policies and programs for the entire community. Existing service providers should be asked to adopt Zero Waste as a goal and see the opportunities to reduce waste, provide takeback services to local manufacturers and retailers, and to help communities and businesses get to Zero Waste. The communication with all sectors of the community should be permanent, in all planning and implementation phases of the Zero Waste plan.

**4. Demand decision makers manage resources not waste.** Existing incinerators must be closed down, no new ones built and landfills phased out. Landfills are a major source of greenhouse gases (particularly methane, which warms the atmosphere 23-72 times more quickly than carbon dioxide) as well as groundwater contamination. Incinerators and other burning and thermal treatment technologies such as biomass burners, gasification, pyrolysis, plasma arc, cement kilns and power plants using waste as fuel, are

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<sup>1</sup> Quote from Martin Bourque, Berkeley Ecology Center, at GRRN *Zero Waste Conference*, New York, April 2005.

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a direct and indirect source of greenhouse gases to the atmosphere and turn resources that we should reduce or recover into toxic ashes that need to be disposed of safely. Neither landfills nor incinerators are an appropriate response to the challenge of peak oil, which will make any new incinerator impractical within its lifetime, as embedded energy and oil within products will become too costly to replace. More energy can be saved, and global warming impacts decreased, by reducing waste, reusing products, recycling and composting than can be produced from burning discards or recovering landfill gases. Communities should fight any effort to introduce new incinerators, in any guise, and replace existing landfills and incinerators, with resource recovery parks and composting facilities.

**5. Use economic stimulus funds, fees levied on tons of waste to landfill, and other means** to educate and train Resource Managers to use a zero waste approach to develop programs for handling community discards, create green jobs and to enforce environmental rules.

**6. Educate residents, businesses and visitors.** Zero waste is a strategy not a technology. As such, it aims for better organization, better education and better industrial design. To achieve the cultural change needed to get to Zero Waste, communities must establish programs to educate and train residents, school children, college students, businesses, and visitors about new rules and programs.

**7. Perform Zero Waste Assessments.** Communities should conduct a waste audit to find out the amount and type of waste being produced in their community. Data can be collected locally or obtained from comparable communities if funding is not available. These audits should be used as a baseline to identify recovery and employment opportunities, cost savings and measure the success of the reduction and recovery program. Evaluate what additional source reduction, takeback, reuse, recycling and composting programs and facilities are needed to make those services more convenient to users than mixed material collection and disposal services.

**8. Build Residual Separation and Research Facilities.** In the interim phase, residuals should be sent to Residual Separation and Research Facilities built in front of an existing landfill. These facilities should act as a way of linking community responsibility to industrial responsibility. If the community can't reuse it, recycle it or compost it, industry shouldn't be making it. Costly incinerators attempt to make these residuals "disappear." In a zero waste program the residuals need to be made very visible, since they represent either bad industrial design or bad purchasing habits, both which have to be changed through a dedicated research and educational effort.

**9. Develop New Rules and Incentives to move towards Zero Waste** - Communities can significantly change what is "economic" in the local marketplace with new policies, new rules and new incentives. Communities should restructure contracts and policies to make the avoided costs of collection and disposal a key engine for moving towards Zero Waste. "If it can't be reused, repaired, rebuilt, refurbished, refinished, resold, recycled or composted, then it should be restricted, redesigned, or removed from production."<sup>3</sup>

**10. Enact Extended Producer Responsibility (EPR) Rules.** Communities need to help and encourage local businesses to take back products and packaging at their stores and factories from consumers. They should also advocate for state and national EPR policies and programs for brand-owners and producers. As much as possible, discard management costs should be shifted from local government to the producers of the product. This gives producers the financial incentive to redesign products to make them less toxic and easier to reuse and recycle. Products and packages that cannot be recycled or composted locally or are toxic should be required to be taken back at point of sale.

**11. Remove government subsidies for wasting** – Governments, particularly in the US, have adopted many tax incentives to encourage mining and timber harvesting that are no longer needed and subsidize the wasting of resources. Governments have also subsidized incinerators under the guise of "Energy from Waste" when in fact such facilities waste energy. Government regulations of landfills have also inadequately addressed leachate and methane generation, which is an indirect subsidy for wasting. Communities should call for the removal of all these subsidies.

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<sup>3</sup> Quote from Martin Bourque, Berkeley Ecology Center, at GRRN *Zero Waste Conference*, New York, April 2005.

**12. Support Zero Waste Procurement** Local governments should adopt the Precautionary Principle for municipal purchasing to eliminate toxic products and services; purchase Zero Waste products and services; avoid single use products and packaging; return to vendors any wasteful packaging; reduce packaging and buy in larger units; use reusable shipping containers; purchase reused, recycled and compost products; buy remanufactured equipment; lease, rent and share equipment; buy durables (using life-cycle cost analyses); and encourage businesses and institutions to follow these practices as well.

### **13. Expand Zero Waste Infrastructure**

- a. **Zero Waste Infrastructure** – Local governments and stakeholders should be involved in developing locations for reuse, recycling and composting businesses to collect and process materials, manufacture products, and sell products to the public, including Resource Recovery Parks.
- b. **Support Reuse Businesses, NGOs and citizens' groups** – Identify, help expand and help promote reuse businesses, NGOs and citizens' groups. Focus on the value of reusables, not just the tonnage of products in that stream. Establish efficient repair and reuse programs to retain the form and functions of products. Help reuse products for their original intended use as a priority.
- c. **Get Compostable Organics out of Landfills and into Composting Plants** (including garden clippings, food scraps, food-soiled paper and clean wood waste) – Organic materials produce methane and other landfill gases. Communities should adopt policies and programs to achieve this goal by 2012.<sup>4</sup> Encourage Planning Departments to support farming over subdivisions and consider composting a crop. Where possible small local composting operations should be preferred to large centralized facilities. Compost should be used locally to grow food and restore the soils to enhance food security, local self-reliance and sustainability. By sequestering carbon in soils composting further helps to reduce the emission of global warming gases.
- d. **Support Zero Waste plans in businesses and institutions** - Communities should require all businesses and institutions to subscribe to Zero Waste services, require that recycling and separate hauling services are provided universally to all of them, and require that discarded materials are source separated to retain the highest and best use of those materials.
- e. **Construction, Demolition, Landclearing and Remodeling (C&D)** – Adopt deconstruction, reuse and recycling policies, programs and facilities (including requiring plans) needed to achieve Zero Waste. Work with Green Building programs to expand demand for such services on a citywide basis.
- f. **Locally owned and operated local enterprises.** Wherever possible Communities should support locally owned and operated community enterprises, to manage and use local discards sustainably and create jobs and training opportunities in the local community.

**14. Challenge Businesses to lead the way to Zero Waste** – Thousands of Zero Waste Businesses already divert over 90% of their wastes from landfill and incineration around the world. Zero Waste Businesses are reducing their costs of managing resources and discards, increasing their operating efficiency, decreasing their carbon footprint (including energy use) and decreasing their long-term liability. Identify, recognize and promote Zero Waste Businesses locally and challenge others to follow.

Global warming Lorenzo [ylol@libero.it](mailto:ylol@libero.it) for translation etc.

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<sup>4</sup> See [www.COOL2012.org](http://www.COOL2012.org)