

SECTION 4

WHERE WE NEED TO GO (the Vision)

“Some people see things as they are and say why? I dream of things that never were and say why not?”

Robert Kennedy

INTRODUCTION

We live in an unprecedented time of opportunity. The opportunity to create a new paradigm in resource management and the concept of “zero waste”.

This new order of things is not about sacrifice, but opportunity. Not about doing with less, but doing more with what we already have – and in the process creating a new “home-grown” economy right here in LA. It is about “**RENEW LA**” – Recovering Energy, Natural Resources, and Economic Benefit from Waste for Los Angeles.

The industrial revolution, that started 300 years ago with Thomas Newcomen’s steam engine pumping water out of English coal mines, has carried some people and countries to an unprecedented standard of living, but at a severe price to the planet, its ecosystems, flora and fauna, and indeed some of its peoples.

As detailed in the seminal book by Paul Hawken, and Amory and Hunter Lovins entitled “Natural Capitalism – Creating the Next Industrial Revolution”:

“Besides climate, the changes in the biosphere are widespread. In the past half-century, the world has lost a fourth of its topsoil and a third of its forest cover. At present rate of destruction, we will lose 70% of the world’s coral reefs in our lifetime...In the past three decades, one-third of the planet’s resources have been consumed. We are losing freshwater ecosystems at the rate of 6% per year, marine ecosystems by 4% per year.”

It is clear that our “one way” model of natural resource extraction, manufacturing, one-time use, and disposal must change to one that “mimics” the biological systems in nature. These systems of continuous, closed-loop cycles return resources to the system for reuse, recycling or conversion.

In fact, we must not only reduce the amount of waste we generate and the environmental problems it creates, but eliminate the *concept* of waste altogether. This, in

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essence, is the paradigm shift suggested in this report and upon which the “blueprint” is based. To make such a shift requires the curiosity of an open mind, the courage to transcend the status quo, and the tenacity to initiate a new order of things.

THE OLD PARADIGM

The qualities of our existing industrial paradigm are as follows:

- *Maximize production*: to create the greatest amount of product per unit of work
- *Subsidize resource extraction*: to encourage the “mining” of virgin resources as a society by a series of depletion allowance, tax credits, etc.
- *Subsidize waste disposal*: to assist industry (and encourage wasteful practices as a result) by paying as a society for disposal of manufactured products
- *Build in obsolescence*: to encourage the continuous, growing consumption of resources by creating products with short lives
- *Opt for the lowest cost solution*: bury resources in the ground as “waste”
- *Avoid full-cost accounting*: ignore environmental, social, and quality of life issues in making assessments on the “cost” of alternatives

THE NEW PARADIGM

What would be the qualities of a proposed paradigm of “zero waste and the creation of a new home-grown industry”? A list of the most important could be as follows:

- *Sustainability*
- *Responsibility*
- *Protection of the environment*
- *Conservation of Resources*
- *Renewability*
- *Economic Stewardship*
- *Fairness*
- *Leadership*
- *Vision*
- *Education and Outreach*

Each of these qualities is discussed briefly below.

Sustainability

Webster's: *to keep in existence; maintain or prolong; to provide sustenance or nourishment; to support from below*

This is the new catch word of the environmental movement and rightfully so. It reflects a goal of bringing our systems into balance so that the earth retains its ability to assimilate our materials and create new natural resources on a healthy, long-term,

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ongoing basis – in fact, forever. The purpose here is to emulate the continuous closed cycles in nature that have been self-sustaining since the beginning of time.

Responsibility

Webster's: *the condition or quality of being responsible; accountability; dependability; obligation*

This quality applies not only to our individual actions, but to those as a society and planet as well – to the “common areas” of air, water and land. It asks each of us to be accountable for what we create, to not merely shunt the problem off to another location, another people, another generation; and to do so in a way that facilitates sustainability. In Los Angeles, this means looking for local solutions rather than longer and longer hauling of waste to other jurisdictions.

Protection (of the Environment)

Webster's: *to shield from injury, danger, or loss; guard; defend*

No matter the level of our success, or our socio-economic standard of living, all will ultimately be lost unless we protect the very ecosystems (air, fresh water, forests, etc.) upon which we rely for the oxygen we breathe, the food we eat, the shelter we create, and all of life's functions.

Conservation (of Resources)

Webster's: *protection from loss, waste, etc.; preservation*

In a finite world with finite resources, it makes infinite sense to carefully husband the resources we consume to ensure a balance between extraction and replenishment.

Renewability

Webster's: *the quality of being made new or as if new again; to replace as if by a fresh supply*

The way to maximize a finite supply of resources is to develop systems and facilities based on renewable materials and energy that can be used over and over again as opposed to maximizing the use of “non-renewable” resources such as fossil fuel. In this way, we can develop an unprecedented standard of living for all people on the planet. Without the focus on renewable technologies, the natural resources of the earth will be depleted. The economic growth of China, India and other countries place an additional burden on existing resources – remembering that it is the U.S. that consumes 25% of the earth's resources with only 5% of its people.

Fairness (Environmental Justice)

Webster's: *the quality of being just and honest; impartial; unprejudiced*

Environmental Justice is a new concept based on the historical fact that certain communities (generally lower income and ethnic) tend to carry more than their share of impactful land uses such as prisons, wastewater treatment plants, landfills, and polluting industries. Much of this is driven by existing zoning ordinances that restrict such uses to heavy industrial areas where lower income neighborhoods often co-locate. A more desirable ethic is to create an equitable distribution of facilities and for all communities to share in both the beneficial services and also the impacts.

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Coincident with this fairness doctrine must be the development of better technology and better environmental controls leading to minimized impacts. This will ease community acceptance of such projects. In Los Angeles, the areas that have carried the burden to date are the harbor, south central Los Angeles, and the North and East San Fernando Valley.

(Economic) Stewardship

Webster's: *the act of being morally responsible for the careful use of money, time, talents, or other resources, especially with respect to the principles or needs of a community or group*

Our assessment of competing paradigms (waste disposal vs. resource management for example) must now take into account all the benefits and costs, including not just the traditional “bottom line” reflecting the cheapest piecemeal solution, but rather all the social, environmental, and quality of life issues that are so important. Evaluation on such a scale can produce a much different outcome, and lead to more educated choices.

Leadership

Webster's: *the quality or act of leading; directing; commanding, or guiding head, as of a group or activity*

As one of the pre-eminent cities of the 21st century, and one perfectly positioned on the Pacific Rim with direct trade routes to all of the western Pacific countries for exchange of goods and services, Los Angeles must continue its heritage as a leader of new trends and ideas. This is our opportunity to lead the rest of the country into the new paradigm of resource management.

Vision

Webster's: *the ability to perceive something not actually visible, as through mental acuteness or keen foresight*

In order to lead, one must have vision, be able to see ahead what others don't, be able to not just rearrange the cars on the train, but to get out in front of the locomotive and lay new track. Without such vision and the ability to articulate it clearly and with passion, we are doomed to succumb to the protectors of the status quo and to continue our existing outmoded systems until it is too late to change.

Education

Webster's: *the process of training and developing the knowledge, skill, mind, character*

To succeed where our vision leads will require education of our leaders, the solid waste and recycling industry, and ourselves as individuals and communities.

EXISTING ELEMENTS OF THE VISION

Over the past 15 years, the City of Los Angeles has made significant and accomplished strides both in the public and private sector toward a zero waste system, even though it wasn't officially called that. Most notably, the City has achieved a

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diversion rate of 62% and is targeting the next push to reach the self-imposed mandate of 70% by 2020.

Indeed, the Bureau of Sanitation “Solid **Waste** Management Department’s” recent name change to “Solid **Resource** Management Department” signals the exact paradigm shift being called for here. Their “Phase IV Report – Solid Waste Management Policy Plan” of October 1993 laid out the strong beginnings of the vision discussed here over 10 years ago. This Plan was updated in 2000 with a Solid Resources Infrastructure Strategy Facilities Plan and again in 2001 with Strategic Recommendations for Meeting the Year 2020 70% Diversion Goal. Now it is up to us to carry on from there with renewed commitment and urgency.

In the private sector, companies continue to develop new MRFs, C&D processing facilities, composting sites and other facilities and programs in spite of the difficulty in permitting such projects in an area booming with development.

City leaders are calling for major increases in recycling and the closing of local landfills. Indeed, the closure of the City’s Lopez Canyon Landfill and the imminent closure of the Bradley Landfill in Sun Valley illustrate this trend.

The CIWMB has embraced a Zero Waste philosophy, leading the way toward the new vision. The Board says on their website:

“The success of Zero Waste requires that we redefine the concept of “waste” in our society. In the past, waste was considered a natural by-product of our culture. Now, it is time to recognize that proper resource management, not waste management, is at the heart of reducing waste sent to landfills.

For years, we have been throwing valuable resources away—the same resources we will inevitably need in the future—all in the name of consumer and manufacturer convenience.

At the California Integrated Waste Management Board (CIWMB), we now embrace the idea of a Zero Waste California as we promote the goals of market development, recycled product procurement; provide recycled purchase opportunities through our RecycleStore, and continue to research new and sustainable technologies.

These bold statements are right on purpose with this new blueprint for the City of Los Angeles.

Regarding renewable energy, the LADWP has inaugurated an aggressive Renewable Portfolio Standard (RPS) calling for 13% renewable energy by 2010 and 20% by 2017, a truly ambitious goal and also one in line with the new paradigm. In fact, the new conversion technologies form a nexus between the solid waste industry and the utilities in

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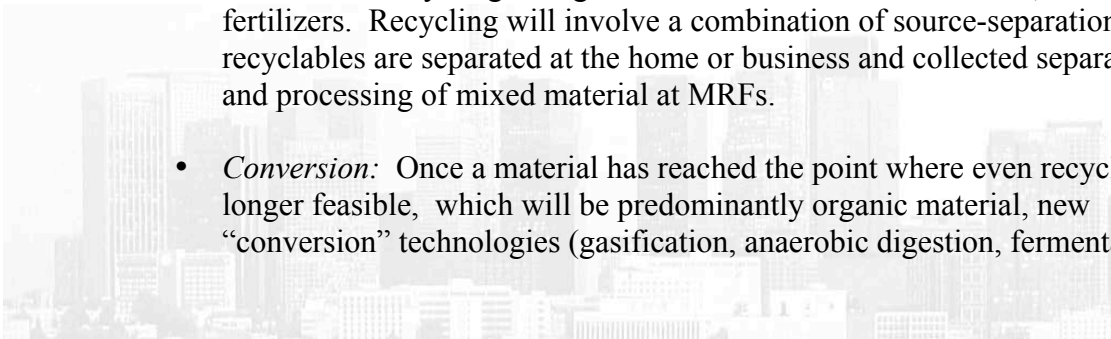
that they “convert” portions of our wastestreams into renewable energy; thus creating both waste diversion and green energy.

THE VISION (in a nutshell)

Although a perfect world can never be achieved, we must act in our hopes for the future, as if we could. Following are the transformations this plan supports:

- *Virgin resource extraction:* individuals and companies performing the “mining” of virgin resources (oil, minerals, timber, fish, corn, etc.) do so in a manner that not only protects the ecosystem’s ability to sustain itself, but improves that capability
- *Manufacturing:* Manufacturers take on the mantle of “Extended Producer Responsibility”, embracing the idea of cradle-to-cradle production in which they bear responsibility for their products in a closed cycle of production, use, recovery and conversion back to new products. As such, they realize it is good business to minimize virgin resource use, to eliminate the creation of toxic and hazardous material, to maximize the reuse and recyclability of their products, to minimize packaging and other material that must be handled at the “end of the pipe”. This may involve a shift in concept from manufacturers of “products” to providers of “service”, in which they will take responsibility for the complete, closed-loop handling of their manufactured goods.
- *Reduce:* Individuals, communities, and companies reduce the amount of material consumed in the first place. This will require a shift from our “more is better” philosophy of conspicuous consumption.
- *Reuse:* Once products have been manufactured and used, society will maximize the reuse of these items and embrace the concept that “pre-owned” is good, including encouragement of stores that sell re-usable hardware, building supplies, and other items.
- *Recycle:* And finally, for that material that cannot be reduced or reused, society will recycle it into some other product and thus contribute to sustainability, renewable, resource conservation and the other positive qualities the paradigm espouses. This “recycling” also includes composting, which is the recycling of organic material into soil conditioners, and fertilizers. Recycling will involve a combination of source-separation (where recyclables are separated at the home or business and collected separately) and processing of mixed material at MRFs.
- *Conversion:* Once a material has reached the point where even recycling is no longer feasible, which will be predominantly organic material, new “conversion” technologies (gasification, anaerobic digestion, fermentation,

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etc.) will be used to convert the biomass to fuels, chemicals or energy and usable by-products. This energy is not only “green” and “renewable”, but can also result in net zero greenhouse gas emissions.

- *Residual Repository:* Ideally, there would be no waste, and therefore, no need for disposal. However, an acceptable target is the transformation of landfills into “retrievable, inert residual repositories” that would accept 10% or less of the current daily tonnage in the form of non-polluting, stabilized, inert material. In addition, this material would be so placed as to be easily extractable and re-manufacturable when future technologies or market forces make it feasible. Ultimately, this mining of retrievable resource would provide the last step in the achieving of a zero waste system.
- *Home-Grown Industry:* New entrepreneurial businesses will spring up in conjunction with elevated levels of material recovery, spawning a revitalized manufacturing sector in the City of Los Angeles. These jobs will be associated with the processing, recycling, composting, conversion and re-manufacturing of resources heretofore buried in the landfill. These companies will tend to be small in size and universally distributed throughout the City. A recent CIWMB report to the SCAG Solid Waste Task Force (Berton, February 7, 2005) highlighted the need for developing “home-grown infrastructure and markets,

“Exports of paper and plastics, particularly to China, have increased over the past five years. This trend may change dramatically as China’s internal recycling system matures. If that is the case, then California’s recycling infrastructure may not be able to adequately recover and we will not be able to handle the increase in feedstock should the export market collapse. California needs to keep its resources within California and develop internal infrastructure and markets to sustain them.”

- *Buy-Recycled:* To “close the loop” and drive local industry, the government sector will lead the way in mandating the preferential purchase of products with post-consumer recyclable content. This also involves the shift as a society from favoring new ‘virgin material’ products to the acceptance and support of the purchase of products with recycled material content. See Appendix V for a draft of a new City of Los Angeles Procurement Policy that supports not only recycled content products, but highest and best use of resources.

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GOAL AND TIMETABLE

This plan targets the reduction and eventual elimination of landfill disposal of waste, as known today. Annual disposal tonnage is easy to obtain because all material generated within the boundaries of the City of Los Angeles and delivered to landfills is weighed on certified scales and the numbers reported to both the City Environmental Affairs Department and the CIWMB for AB939 compliance calculations.

Therefore, the measurable goal to be achieved by this blueprint for resource management is to achieve a 90% diversion rate or greater, reflected in the following schedule of disposal tonnage (See Chapter 5 for details):

<u>Year</u>	<u>Material to Disposal (TPY)</u>	<u>Diversion %</u>
2005	14 million (current number)	62
2010	13 million	68
2015	10 million	77
2020	7 million	87
2025	4 million (inert retrievable)	93

It is important to note that this diversion includes not only the existing material going to disposal, but a 2% growth per year in the wastestream, which adds thousands of tons per day that must also be diverted in the future.

Achieving this goal through the implementation of this blueprint will automatically result in the achievement of the ancillary goals of creation of new, quality jobs in the local manufacturing sector, reduction of environmental impacts, and the easing of traffic congestion by reduction in long-distance truck hauling.

SHIFT IN GOALS

One of the key aspects of any paradigm shift is the focus on new goals. AB939 changed the paradigm in 1989 in the State of California from a priority on the cheapest and easiest means of disposal to one of diverting 50% by 2000 regardless of the cost. The Los Angeles City Council provided a further shift in the paradigm by declaring a 70% diversion target in 1994.

Now, a similar shift to zero waste must be created. New technologies and programs must be evaluated in the light of the new goal, the new paradigm. This is not to shrug off the mandate for fiscal responsibility, but to say that this responsibility must be viewed in a new light where the target is a sustainable system based on resource recovery, and highest and best use of those resources, not a “one-way” system based on the irretrievable disposal of waste.

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