Waste During the First Thirty Years of MSW Management Magazine

Two feet forward, nineteen inches back.

John Trotti

Those who have been involved in municipal solid waste management during the past three decades will attest, there has been no clear cut progression in the field, rather a large number of fits and starts to trace industry's attempts to meet governmental and societal requirements that are themselves at the mercy of external forces.

Instead of trying to chronicle these twists and turns, I am going to focus attention on the magazine's response to the major paths of waste management activity: Waste Management programs, Public Health and Safety issues, Operations, Materials Management, Human Resource Development, and Technological Achievement. Finally I'll take a look at the challenges and opportunities the field is facing today.

Before getting down to the waste business itself, I'd like to set the stage with what to me is the most important take-away from my eighteen years with the magazine… the people with whom I had the privilege of rubbing elbows.

First and foremost is, Dan Waldman, publisher, mission setter, and friend who began the magazine on a shoe string, then guided its policies, focus, look, and feel with unerring accuracy. From the start his goal was to create the finest, most authoritative, most readable, most useful publication in a field already covered by such notable titles as *Waste Age, Air & Waste Management, Resource Recycling, and a half-dozen more.*

Next in line were the amazing members of our Editorial Advisory Board—experts from both the public and private sector— willing to provide input and set us straight when necessary. It was through them the magazine was able to keep a finger on the pulse of the industry and the forces that drove its activities.

This paves the way to state unequivocally. with a slight twist of Wil Rogers' famous quote, "I truly never met a waste professional I didn't like." This assertion sets in stone the real reason why MSW Management is today the last print publication covering the entirety of MSW efforts left standing from when it entered the field.

A Broad Overview of the Arena into Which the Magazine Stepped and Thrived

Quite aside the launch of the magazine, 1990 was a year of fundamental and dramatic change for the waste industry, relatively little of it driven by matters of waste itself.

Functionally the public sector owned and operated the majority of the nation's waste facilities, while the private sector's strength lay in collection and transportation. With the gathering public interest in and support of environmental issues and the burgeoning implementation of the Resource Conservation and Recovery Act (RCRA) strictures, the roles for the two sectors were in flux. This was particularly true in the landfill arena where the highly scattered public sector efforts were hampered by the high costs of meeting the new and expensive requirements. By contrast, many of the private sector entities were prepared fiscally and operationally to step in.

Because of its collection activities, the public private sector found itself with a powerful advantage pointed out in one of the magazine's earliest articles proposing that 'those who had the trash ruled the roost'. It was this vision that set the stage for flow control issues that roiled the legal waters, rising on two occasions in the 1990s to the notice of the Supreme Court regarding the 'Commerce Clause' of the U.S. Constitution. While the public sector prevailed, providing municipalities the opportunity to direct waste their own facilities, here again the high costs of meeting the requirements prevented most jurisdictions from doing so

From MSW Management Magazine's standpoint, you'd have thought this was a setback since from the outset it was distinguishable from its competitors in two distinct ways: its focus on the public sector, and its location in California, both of which, moving forward, made it all the more valuable to its public sector audience (1) in how best to proceed in the changing environment and (2) the workings of the environmental movement, especially in California.

Landfills in the Crosshairs

Throughout the period, the elimination of the landfill disposal option has been at the forefront of environmental agenda resulting in reactive efforts by landfill proponents seeking to combat the air and groundwater contamination issues with end-of-the-pipe solutions based on modelling programs. In line with other waste activities, landfills could be characterized as the 'poster child' for data shortfall. Stymied by the lack of commonly accepted metrics, throughout the period—and even today-- true waste management was a difficult, if not impossible task. The situation was made worse by Federal and state authority mandates, often at odds with one another, offering a variety of 'one-size-fits-all' solutions. Throughout the period, however, data that did emerge showed impacts on air and groundwater resources to be greater than those guiding remedial action for much of the period.

Recycling ISWM, and Zero Waste

While recycling was in general the preferred option for dealing with landfills promoted by environmental organization, it was also the most unsettled from the standpoint of how to deal with the major portion of the waste stream for which no markets existed.

The situation was brought to a head when the Sierra Club's governing board formally adopted a sweeping Zero Waste policy on February 23, 2008, proposing a host of specific roles for all strata of society, seeking to "…integrate social, environmental and economic outcomes." Central to the Sierra Club's program is its call for "Extended Producer Responsibility" as a primary means of addressing the root causes of waste rather than current end-of-the-pipe approach to waste management. The Club proposed four principles in pursuit of its goals:

1. Zero Waste Hierarchy: Environmental management of materials and energy should adhere to this order of priority: first, reduce the use of materials and energy and the use of toxic substances to a minimum (through design for the environment);

second, repair and reuse, extending the service life of materials and products; and third, recycle, conserving as much as possible of embodied value.

2. Government Responsibility to protect the commons: Governments at all levels would be obligated to protect public health and the environment by fostering an economic system that fully values environmental and social costs and by providing public services and amenities that the market cannot or should not provide. The removal of government subsidies for the extraction of virgin materials and other subsidies for wasteful consumption are key elements of this principle.

3. Producer and Consumer Responsibility for products wherein producers introducing products and services into commerce should design them in accordance with the Zero Waste Hierarchy and to make returning used products for reuse, repair or recycling as easy as purchasing new products. Consumers are responsible for returning those products for reuse or recycling to services provided by producers or their agents.

4. Waste program development and operation should provide opportunity for input by all stakeholders with industry accountable to both government and consumers for environmental outcomes.

While the magazine favored some of the principles themselves, it warned that neither industry nor the public would be supportive of such high-handed action necessary to make any of them effective, and that in its contentiousness, Zero Waste ran afoul of the role of the marketplace.

Without fully defining what was meant by the term or providing some estimate of what the costs might be relative to what benefits the public should anticipate, the Zero Waste movement instead proved divisive to the waste management community, delivering damaging blows to Integrated Solid Waste Management (ISWM) efforts struggling to meet Federal materials management goals.

Had this been the only issue with which the waste industry was forced to contend, the road to the present might have been far different, but as other activities have found, political interests are no match for societal needs; economics always, and crisis areas such as energy and disaster damage as those needs arise.

Offshoring Waste

One thing the Zero Waste movement did accomplish was to make it indelibly apparent the amount of recycled materials have no viable markets here; often, it is said, because of environmental concerns regarding their processing. Instead of staying within our borders and under our control, the most practical way to achieve Zero Waste goals was to ship waste abroad beyond the reach of our environmental regulations and/or permissible practices (WTE for instance); and so their potential environmental impact is not mitigated but merely shifted overseas.

"There are no markets here," was the issue in many minds. "It's far more expensive to process recyclables here than in—say—China, so if we can't deal with them here, doesn't it make more sense to send the materials to people who can convert them into useful products?"

Playing the devil's advocate, the magazine suggested that the reason we can't deal with the outsourced materials here is because in doing so we've outsourced our recyclables processing capability just as we have a great deal of our productive capacity over the last decade?

One of MSW Management's persistent reminders has been that recycling is a market-driven enterprise that in order to work has to meet the customer demands for quality, quantity, and timeliness. It was our belief that offshoring created a barrier to genuine recycling progress at home, one brought to the fore by China's "National Sword" policy.

Energy from Waste

In the past three decades, energy concerns have come to the fore on three separate occasions and are never far from the surface in any event. The waste industry's response has been at different times; mass burn Waste to Energy (WTE), Landfill Gas to Energy (LFGTE), Anaerobic Digestion (AD), and throughout the a variety of practices lumped in the category of Conversion Technologies (CTs) that until the collapse of the waste offshoring collapse were confined to an adversarial position by the more established recycling elements.

Boosted by rising energy prices, deregulation within the electric utility industry, the search for less-polluting fuels, and the growing concern over our dependence on foreign fuel supplies, support for the development of non-petroleum energy sources is mounting. This opens broad new avenues of enterprise for the economically viable diversion of waste.

While resistance to thermal WTE projects is still high in the US and Canada--it is the preferred practice throughout much of Europe and Asia--objections to non-thermal waste transformation technologies (pyrolysis, gasification, anaerobic digestion, distillation, etc.) are rooted in such counter-productive pursuits as the protection of feedstocks and the belief that any generation of energy or fuels is inherently bad.

In 1999, MSW Management leapt back into the fray, co-hosting with the Wendy P. McCaw Foundation a colloquy in which…"The general objective was to explore certain fundamental questions relating to sustainable materials management in the 21st century and the potential role of new conversion technologies in processing portions of the solid waste stream into renewable and environmentally benign fuels, chemicals, and sources of clean energy. Of particular concern [is] how government policies and functions may need to change to anticipate, catalyze, and respond to these future developments, while ensuring and enhancing environmental protection, resource conversion and recovery, economic development, and other related public policy goals."

The colloquy, attended by representatives of government (DOE, NREL, CIWMB) and a number of producers, seemed to provide a viable platform from which to move ahead, but the vision was short-lived, succeeding on subsequent occasions to incur the enmity of a number of environmental groups, who see CTs was rivals to recycling feedstocks.

There Have Been Some Significant Improvements

Despite the difficulties the field has faced since 1990, there have been some solid .

advances along with emerging opportunities to move forward.

Every aspect of our waste operations has undergone continuous improvement during the period, some such as processing and activity management the driven by economics; collection, transportion, diversion, and disposal by a combination of regulatory and economic matters. Technological advances have played a manor role in all of them

Automated collection has come a long way in the past few years…as so it should. It, in conjunction with route-management software and oversight, has contributed to reduced costs and improved route safety

Replacement of diesel- by CNG-fueled engines that have not only reduced pollution, contributed to reduced maintenance costs

Sorting systems have undergone continual improvement through the use of novel assessment techniques the speed of computer systems lying at their root. These improvements have allowed for an increase in the materials that can be sorted as well as the accuracy they can achieve.

The use of remote sensing devices have led to better landfill gas and leachate monitoring systems that in turn permit better landfill design and construction practices as well as the employment of more effective real-time remediation measures.

…And Some Failures

Waste offshoring is largely a thing of the past, but the damage it did to waste management in general, and diversion in particular in terms of time, effort, and costs is incalculable, calling for a complete restructuring of programs, staff skills, and development of effective public policies.

Safety has been the subject of major concern throughout the subject period, to which the magazine has devoted 47 of its 203 editorials…23%. Furthermore EPA, SWANA, NWRA, and numerous other organizations have joined a fight that in all candor must be considered a dismal failure.

The waste industry continues to suffer from poor information availability and worse yet a set of generally accepted metrics on which managers are able to measure and improve their operations.

My final thoughts on the last thirty years has to do with changes in the workforce and management populations.

In 1990, Hispanics were a relative rarity in industry line activities. Today they occupy the majority of line and line supervisory positions and are increasingly finding their way into management slots as well.

In 1990, women comprised a growing but still negligible portion of management posts. Today, woman occupy the majority of public sector management positions, increasingly moving to the very top. Looking forward, this trend can only increase, owing to some extent to the fact that 70% of today's college students are women. We all would do well to consider what effect this will have on the next thirty years.