Editor's Comments May/June 1999

Clearing the Air: An Opportunity for MSW?

I think if you ask most people how they rate our stewardship of Earth's bounties, they'd say something to the effect that "We're not doing too well, are we?" Yet because we've got more mouths to feed, increasing demands for goods and services for this growing populace fueled by the spread of affluence around the globe, and an explosive growth in our technological capacity for exploiting resources with which to meet these demands, it's difficult to envision a workable solution or combination of solutions that don't resort to unacceptable measures to curb the pent-up desire of the multitudes to reap the benefits available heretofore to none but the favored few. So here we are, facing a situation in which two of the three variables--population growth and spreading affluence--are bound to continue, leaving technology as our most available means for recasting our stewardship.

Because they are so firmly entrenched, the extractive institutions on the front end of the materials-management side of the equation are not apt to rush willingly to the vanguard of change. Though the institutions on the diversion and disposal side of the equation--our side--for a certainty exist, they are far less entrenched and have been rocked by explosive change throughout the last half-century. Surely this makes them a likelier target for technological intervention.

Technology and MSW are by no means strangers…indeed we've witnessed huge advances in collection, transfer, and materials processing equipment and systems. Few will argue that the intensity of focus on improvement in operational efficiencies at every level will do anything but increase in response to changing public attitudes towards waste handling and the siting of facilities to accomplish the various tasks involved. Perhaps it's time to concentrate more effort on technologies capable of transforming wastes into marketable products, two of which leap immediately to mind: landfill gas and pre-disposal biomass materials.

In the case of the former, mature technologies are in place with unfunded (for the most part) government mandates for control of the gas driving the extraction and management activities. You'll find the market side of the story detailed on p. 52 and I urge you to read the article and pass its message on to decisionmakers for action.

The latter--the 60-plus percent of the wastestream composed of organic material--is a more complex issue since portions have found markets of varying consistency and value. Paper and textiles are in continuing demand and even compost has found markets here and there. Reliance on the stability of these markets has proved risky in the past, leading some to believe that it's important to explore and develop new markets for these materials. The $64 question is, what markets?

Looking for Opportunities

Methyl tert-Butyl Ether (MTBE) is a colorless, flammable liquid with high water solubility (>4%), high flammability, and extreme volatility. It is resistant to biodegradability in either aerobic or anaerobic conditions; does not adsorb to vadose zone materials, moves quickly through soil columns because of its high vapor pressure, and readily partitions into groundwater. Not surprisingly, groundwater in equilibrium with gasoline containing 15% MTBE could contain as much as 9,600 ppm of substance.

MTBE has been used as a deicer in cold climates in the US since 1979 and used as a fuel additive since 1990 primarily in the winter months, and in California for the entire year since 1994. As early as February of 1991 the California EPA office of Environmental Health Hazard Assessment established an interim action level of 35 ppb for MTBE. In other states, regulatory action levels range from 20 to 200 ppb. Suddenly aware of groundwater risks, governing and regulating agencies around the country are beginning to take action to ban the use of MTBE-laced fuels, in effect resetting the mobile-source air quality emissions clock back by a decade or two.

That's awful, you say, but what's that have to do with me and MSW? Well, maybe it's time to take a look at synfuels?

For those in both the public and private sector who see in the emergence of a very small number of vertically integrated waste management providers, a shrinking of disposal options, it's time to look for ways to change the equation or face the very real option of getting out of the business. There are a number of waste-to-synfuel technologies that are well past the maybe stage. Not only are they proven, but actually entering into the commercialization phase as we speak. While it's easy to understand the reluctance to engage in pioneering efforts--particularly with the public's pocketbook--maybe it's time we pushed actively into an area in which we know there will be a market for as far as we can imagine. The risk lies in finding ways to become cost competitive.

Permitting the energy content of waste to go for naught is not only economically wasteful, it is an environmental affront. The increasing cost of petroleum extraction along with the ever-present specter of its embargo, make fuel and energy generation from waste attractive options. Now with the almost certain restriction on the use of MTBE as a component of automotive fuel we may be facing just the kind of opportunity that's needed to jump-start the introduction of a new product for waste managers to market.