Steering Trash Down the Road Less Traveled

Source: umaine.edu

Published: June 22, 2017

UMaine researchers and state stakeholders work towards a cleaner waste stream

By JOE RANKIN

It's only human to make trash. Even early hunter-gathers had a waste stream. Of course, back then most of it was biodegradable and, even when it did pile up — discarded mussel shells for instance, the long-term impact was negligible.

Thousands of years later it's a different story. Humans create mountains of waste. Americans alone throw away 254 million tons of trash each year, or just under four and a half pounds per person each day, according to the U.S. Environmental Protection Agency (EPA). And it's a veritable potpourri. "Organics" like food waste and lawn clippings join metals, paper, and tons of plastics to create a messy mix of garbage.

However, for decades Maine has worked to shrink and segregate its waste stream. In 1976 the state enacted one of the first "bottle bills" to encourage recycling of drink containers. In 1989 legislators enacted a sweeping solid waste management law. While some of that pioneering law's provisions have been softened in the last 26 years, the state is still a leader in dealing strategically with solid waste. Its citizens produce an average of just over a half pound of waste per day, the lowest of the six New England States. Its recycling rate of just under 40 percent is higher than the 34 percent national average, according to the EPA.

Building on those advances, Maine continues to pursue waste reduction strategies. For instance, a current legislative proposal focuses on setting up a system to enable the collection of food waste. The bill was influenced by the work of a broad-based group with a vested interest in the solid waste disposal system, or, as it's now known, "materials management."

This group of stakeholders includes town officials and environmental groups, waste haulers, bottle redemption businesspeople, and landfill and incinerator executives, to name just a few. They are being assisted by the Senator George J. Mitchell Center for Sustainability Solutions at the University of Maine, which earlier this year assembled an interdisciplinary team of researchers to support their efforts to chart a path to a more efficient materials management situation.

Perhaps the stakeholder group's most ambitious accomplishment has been to envision a future Maine with no solid waste, where the slogan 'reduce-reuse-recycle" is applied to every aspect of our economic system.

"We're trying to help invigorate the pace" of improving a waste system and getting average folks to adopt a new mindset when it comes to buying and disposing of stuff, said Travis Blackmer. Blackmer is a lecturer and undergraduate coordinator in UMaine's School of Economics and a Mitchell Center research associate who is helping guide the effort.

A Mitchell Center team is serving as support staff for the effort by the group of stakeholders — people who deal with waste on a daily basis and have been doing it for years. The researchers are providing them with information from everything on best practices to what other states and localities have found works for them to reduce the amount of materials flowing to landfills and incinerators. "We're not the ones out there driving policy," Blackmer said. "We're providing information and connecting people who have been working on this for many years, going back to the last waste management bill."

The usual way to approach the issue might be to garner ideas for tinkering with and tweaking the current system. But in a series of stakeholder meetings earlier in 2015 participants were asked instead to look ahead. Far ahead; to think about what an ideal materials management system would look like, perhaps 50 years or a century in the future.

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>
> —Travis Blackmer

Envisioning a "trash utopia" generated enthusiasm and cooperation among the 130 or so people — recycling brokers, trash haulers, electronics recyclers, environmentalists, consultants, planning and municipal officials, environmental resource experts, students, citizens, and state and federal bureaucrats, according to Blackmer and Cindy Isenhour, an economic anthropologist and UMaine professor who is the co-leader with Blackmer on the Materials and Solid Waste Management Project.

The stakeholder meetings "provided a strong sense that people around the state are concerned about waste and are eager to do something about it," said Isenhour, adding that building on that concern, and momentum generated so far, is the objective going forward.

The exercise of looking into the far future rather than the near works because it takes participants into a legacy mode of thinking, said Blackmer. "People are more inclined to think about the

bigger picture. Rather than how the company they work for is likely to be affected, they are thinking about what type of a world they want to create for their descendants."

The result yielded some resounding themes, including the need for a more coordinated approach to trash, investments in waste separation infrastructure, more information about Maine's trash, and a public better educated about the real costs of doing away with their waste.

More specifically, in their future garbage utopia, Maine would have:

- A lot less waste and recover a lot more recyclable materials thanks to investments in separation facilities, new markets for recyclables, and policies discouraging non-recyclable packaging;
- A statewide waste management system where towns, industries and waste handling companies work together;
- Citizens and policymakers knowledgeable about trash, policies to reduce it, and costs of disposal;
- A statewide waste reduction plan with concrete goals and incentives for reaching them that also allow for regional differences;
- Detailed and up-to-date data about trash and costs, information about what's working elsewhere in the country and the world, and pilot programs that test drive them here.

The way forward: removing organics, and more

Ross Nason is the environment planner for the Kennebec Valley Council of Governments (KVCOG) and was involved in the stakeholder meetings. He said it was crucial that a lot of varied interests were represented at the meetings, and that they crafted a "shared vision" of a materials management future. The challenge going forward, he added, will be to convince lawmakers that it's a goal worth working toward, finding the money to do it and keeping everyone engaged.

Blackmer concedes that future isn't going to happen overnight. It will require a lot of work, including helping to provide information for citizens, policymakers, and officials.

Any effective effort must get people to abandon an "out-of-sight, out-of-mind" way of thinking, said Blackmer. "The consumer is a big part of this," he said. "Coming up with ways to reach and engage citizens, especially through social media — YouTube and Facebook and so on — will be critical." Blackmer said a full-out educational push must get citizen-consumers to realize the impacts of organics contamination on recyclables, illegal dumping, the sheer loss of resources when things go into an incinerator or landfill, and the true costs of disposal.

It will also require the various players in the garbage game, including Maine towns, to work more closely together. One feature of the bill now before a legislative committee would set up "regions" where towns would work together on organics recycling.

The plan, sculpted from stakeholders' ideas and designed to begin translating the 50-to-100-year vision into reality, was rolled out during the Maine Municipal Association's annual conference in

October. Blackmer said reaction ranged from “that’s great” to “that won’t work.” But overall the feedback was “awesome,” he said. “It really helped to refine what we might try to do.”

The plan focuses on nailing down what’s known — or what needs to be known — about things like waste policies in North America and Europe, the amount of organic waste Maine produces and options for pulling it from the waste stream, tools for educating consumers, and mapping resources for reusing rather than wasting products.

There is a “strong waste-not culture” in Maine, and “a very vibrant reuse sector, from thrift shops and antique stores to roadside flea markets,” said Isenhour, adding that “reuse keeps valuable materials and products out of landfills and incinerators and can also work to redistribute wealth to those who need it most. Maine should be proud of these accomplishments and continue to build upon them.”

Filling in the details of the overall plan will be done over the next two years and involve teams made up of Mitchell Center researchers and scientists, public officials and those running private industries, ranging from waste-to-energy plant executives and trash haulers to thrift store managers and bottle redemption center operators.

One of the first efforts will evaluate the potential of removing organic materials from Maine’s waste stream. Organics — everything from household and restaurant food waste to yard waste such as lawn clippings and leaves — can make up to 40 percent of household waste. Much of it doesn’t burn well and it contaminates other materials that could otherwise be recycled.

Part of that research would involve getting a better handle on how much organic waste Maine produces and what would be needed to collect and process it. Researchers would also evaluate different systems, such as composting and co-digestion — the processing of food waste along with other materials such as manure or wastewater.

Another significant focus is on setting up two to four organic waste pilot projects. Smaller towns, those with under 8,000 people, would be recruited to provide and manage drop-off collection for food waste, while larger towns would collect it curbside for composting. The proposed timeline calls for beginning in mid-2016, with a report due in December of 2017. The project is designed to show what works and what doesn’t, and where the potential stumbling blocks are.

Nason, the KVCOG planner, said the pilot projects to test new ideas developed by the group are important since they could provide concrete evidence that such an approach works, and it would be evidence valuable not only in Maine, but elsewhere in the country, he emphasized.

Remaking Maine’s materials management into a more efficient one that drastically boosts the amount of materials diverted from landfills or incinerators won’t come easily or without much effort.

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Blackmer likens it to taking an untraveled road to a distant destination. One road, the road more travelled, offers a comfortable, well-known route, with predictable stoplights and known congested areas, and handy gas stations. The other road is a big unknown with plenty of twists and turns and bumps. In fact, some stretches might only be in the planning stages. “But if you build this other road rather than just play it safe it might be better in the end. This work requires us to hope that we can build a better road,” he said.

Organics diversion, for instance, requires a leap of faith. “Some town has to be willing to pilot those things. Someone has to take a jump,” Blackmer said. In the tech world that jumper would be known as an “early adopter” — the person willing to take a chance on the promise offered by a new piece of technology.

Challenges aside, Blackmer is optimistic and seemingly undaunted by the tasks ahead. He said listening to those who are part of the waste management system now has convinced him that they are interested in seeing that other road take shape. “I think the average stakeholder in solid waste and materials management is just ready to see some new initiatives that work,” he said. “Many are just ready to jump.”
