

BANGOR DAILY NEWS

Maine running out of landfill space, recycling rates stalled, but new technologies are emerging



Troy R. Bennett | BDN

Julio Mejia pulls plastic bags from the recycling stream at ecomaine in Portland. The bags are recyclable but low in value and very hard for the automated machines to sort properly. *Buy Photo*

By **Seth Koenig**, BDN Staff

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PORTLAND, Maine — If nothing changes, Maine is less than 20 years away from having no place in-state to dump garbage. At current rates of waste disposal, the state will run out of landfill space sometime around 2025.

Statewide recycling efforts, once seen as the primary way of keeping items out of landfills and slowing the state's progress toward a capacity crisis, have continued to fall short of the Legislature's targets.

But state and local waste management leaders today remain more optimistic than ever about Maine's waste disposal future, celebrating new opportunities to divert tons of additional material from the waste stream and a renewed push to move the meter on recycling after years of stagnation.

A legislative goal of recycling half of all Maine's waste by the start of next year seems frustratingly out of reach — the recycling rate edged above 40 percent in 2011 for the first time in 12 years — even though the stakes are perhaps higher now than ever before.

“That underscores our need to continue to reduce waste,” said Troy Moon, environmental program manager for the city of Portland. “It underscores the need to be more aggressive with our [waste diversion] efforts and to avoid having to create additional capacity.”

An advocacy push and state program helping to pay for municipal recycling equipment in the 1990s drove up recycling rates across Maine. But in the past 15 years, recycling rates statewide have been harder to budge, barely moving outside the 35 percent to 40 percent range.

To reach a legislative goal of recycling 50 percent of the state's waste by Jan. 1, 2014 — a date that, itself, represents a 2012 deadline extension — recycling habits across Maine will have to skyrocket uncharacteristically during the next eight months.

But despite what appear to be ominous data trends, Maine's waste disposal leaders aren't panicking. There are ways to cut down on the tonnage making its way into landfills that weren't part of the equation when the first statewide recycling assessment was completed in 1988.

“[R]ecycling is not the only mechanism for extending the lifespan of our existing landfill capacities,” Melanie Loyzim, director of the Maine Department of Environmental Protection's Bureau of Remediation and Waste Management, wrote in an email to the BDN. “More than 40 percent of household garbage is comprised of organics, which can be composted or processed into products of further value instead of buried.

“New technologies, such as waste gasification, may provide energy-generating alternatives to incineration and further divert Maine's waste stream from landfilling,” she said. “Many materials historically landfilled can be used instead as alternative fuels. There are a wide variety of waste-diversion strategies identified in the department's waste generation report that we believe can both minimize our state's landfill needs and provide economic benefit.”

Landfill capacity

The department's aforementioned Waste Generation and Disposal Capacity Report, which was dated in March and delivered to the Legislature's environment and natural resources committee, points out early on that there's not enough landfill space in Maine to accommodate the waste the state is now generating.

“At current disposal rates, Maine will need approximately 22.8 million cubic yards of landfill capacity over the next 20 years. There are currently 15.3 million cubic yards of licensed capacity available within the state,” the report reads, in part.

Left to handle Maine's waste moving forward, according to the report, are two state-owned landfills, one commercial landfill, nine municipal landfills, 19 municipal sites for construction and demolition debris, and four waste-to-energy facilities.

“We need to conserve every small space we have in our remaining landfills,” said Kevin Roche, general manager of the Portland-based waste-to-energy and recycling firm ecomaine. “We really need to hang on to all the remaining landfill space we can, and only put there what we can't do anything else with.

“Landfill space is an asset right now,” he said. “It will become a liability when we fill it. Landfilling is a forever proposition. It doesn't go anywhere. It's the cheapest way out today, but it's not the cheapest way out in the future. We're just passing the cost down to our children and future generations to deal with.”

Reduce, reuse, recycle

The mantra “reduce, reuse, recycle” has been used for years by environmental regulators from the local to the federal levels. But the Maine Department of Environmental Protection’s waste hierarchy, a prioritization system touted by department leaders, keeps going beyond the famous three Rs.

The hierarchy goes: Reduce, reuse, recycle, compost, process for energy and then, if all else fails, landfill.

Mainers generated 1.72 million tons of waste in 2011, the last year in which the department has complete statistics. Of that, about 702,000 tons were recycled, leaving just more than 1 million tons for disposal.

Researchers estimate that at least another 40 percent of that remaining 1 million tons — more than 400,000 tons — consists of organic material that can be composted or otherwise processed outside of landfills.

If a significant amount of the organic material, such as food scraps and pet waste, can be removed from the tonnage now heading to Maine’s landfills, the total diversion percentage could easily top the Legislature’s 50 percent goal.

“To really leap toward that 50 percent goal, we really need to include organic material,” Roche said. “I really do believe if we remove food waste, it’s a reachable goal.”

While many Mainers enjoy backyard composting for their gardens, and some entrepreneurs have helped fill the void, there hasn’t been widespread adoption in Maine of a plan to divert organic material from the waste stream.

Portland-based Garbage to Garden [has built a niche business](#) around picking up unwanted food scraps curbside and turning that material over to a local farmer to be composted and resold wholesale.

George MacDonald, director of the DEP’s sustainability division, said he expects many municipalities, some of which pay high annual tipping fees for accumulated trash, to see economic benefits from encouraging composting or other organic waste processing.

“The tons of garbage you’re not producing, you don’t have to pay to get rid of,” said Portland’s Moon, who pointed out that the city pays \$88 per ton in tipping fees to unload garbage at ecomaine. “If our disposal numbers go down, it’s a substantial cost avoidance.”

Waste-to-energy

Ecomaine directors, a group which includes Moon, have approved a study on the feasibility of adding organic waste processing to the organization’s suite of disposal services, and the results of that research are expected in June. Ecomaine is shared by 21 owner communities in southern Maine, and handles waste from 25 additional contract communities.

Currently, the only material ecomaine permanently stores at its own nearby landfill is the ash left over from burning garbage at its waste-to-energy plant, a process that reduces the waste volume by 90 percent.

Loyzim said there remains enough capacity at Maine’s waste-to-energy plants to absorb all the foreseeable waste in excess of what the state’s current landfill capacity can handle.

But the 2012 closure of another of southern Maine’s waste-to-energy plants, the Biddeford-based Maine Energy Recovery Co. — more commonly known by the acronym MERC — has reduced the statewide capacity of such facilities and in at least one case is shifting the disposal burden back to landfills.

Casella Waste Systems Inc., which ran MERC, [has asked the DEP](#) to allow it to dump southern Maine waste it previously incinerated in Biddeford at the state-owned Juniper Ridge Landfill in Old Town. Casella manages Juniper Ridge for the state.

That request is undergoing a lengthy review by state environmental regulators, but if approved, would move 93,000 tons of waste annually from the “processing” rung of the waste hierarchy ladder to the least-desirable “landfill” rung.

Casella has already agreed to move 30,000 additional tons of yearly southern Maine waste to Penobscot Energy Recovery Co.’s Orrington waste-to-energy incinerator.

Still more room for traditional recycling

Despite dwindling landfill capacities, statewide recycling rates have remained stubborn over the past 15 years, peaking in 1997 at 41.6 percent and dipping as low as 34.8 percent in 2007.

While other waste diversion strategies provide optimism for the future, waste management leaders aren’t giving up trying to increase recycling of old standbys such as plastic containers, glass and metals.

So-called Pay-As-You-Throw programs, in which households are charged a certain amount for each bag of garbage left curbside for pickup, have proved effective in motivating residents to put less in their trash bags and more in their recycling bins, which are typically picked up for free.

In Bath, recycling increased by 60 percent after the city began charging by the bag, Owen said, and the recycling rate in the city now hovers around 45 percent. The public works director said residents grumbled about the additional fee, calling it an extra tax, but said if waste disposal costs increased on the city, homeowners would have paid for it through property tax increases anyway.

Plus, he said, “it has definitely extended the life of our landfill.”

Roche identified other spots where progress can be made increasing recycling. He said overall recycling rates would go up in Maine if more businesses and apartment complexes made recycling readily accessible, through widespread placement of recycling receptacles alongside the more common trash cans and Dumpsters.

In Portland, Moon said city leaders are exploring the possibility of putting more such bins in public places, such as throughout the downtown and parks, where trash cans are already plentiful.

“I still see tons of paper and cardboard in our waste stream,” Moon said. “We can do a lot better to get people to step up their recycling.”

Adding recycling bins for each municipal trash can, he said, “sort of reinforces the recycling behavior we want people to pick up back at home.”

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