

SPRING 2015

Part II: Organic Waste Recommendations for NYC



FOR THE ENVIRONMEN

ABOUT NYLCVEF

The New York League of Conservation Voters Education Fund educates, engages, and empowers New Yorkers to be effective advocates on behalf of the environment — from clean energy and funding for parks, to solid waste and green buildings.

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Forward

The New York League of Conservation Voters Education Fund (NYLCVEF) is a 501(c)(3) nonprofit organization dedicated to educating New Yorkers on environmental issues and engaging them in civic life.

Last year, NYLCVEF launched a three-part policy forum series, *Dig Deep for a Greener New York*. The series brought together elected officials, environmental leaders and the general public to challenge preconceived notions and discuss issues of parks funding, green infrastructure and composting.

Composting is a promising strategy to meet Plan NYC2030's ambitious goal of diverting 75 percent of solid waste — including 35 percent of food waste – from our landfills. Various composting pilot projects are underway in residential and school settings; but, to truly reach an economy of scale and address inherent challenges involving organic waste, New York City must develop processing infrastructure in or near the city.

In the fall of 2014, NYLCVEF commissioned a background paper to explore the development of processing infrastructure in New York City. The background paper served as a focal point for a policy forum featuring some of the city's leading experts on solid waste. They discussed the role of organics and food waste collection in achieving the city's solid waste management goals and specific strategies to scale up the city's efforts to divert food waste from landfills.

We would like to acknowledge the organizations whose invaluable feedback and contributions over the last six months helped NYLCVEF shape our final recommendations: New York City Department of Sanitation, New York City Department of Environmental Protection, Benjamin Miller and Juliette Spertus of ClosedLoops, Natural Resources Defense Council, Lower East Side Ecology Center, Citizens Budget Commission, Gaia Strategies, Norman Steisel, and Council Member Antonio Reynoso. We also thank the Robert Sterling Clark Foundation for its generous funding of this work.

A copy of our recommendations has been sent to New York City elected officials, agency heads and other administrators. We are grateful for their comments and look forward to working with all interested parties to make New York City a greener, healthier and more resilient city for all.

Signed,

Mara Byst

Marcia Bystryn, President New York League of Conservation Voters Education Fund

Introduction

The New York City Department of Sanitation sends more than 3 million tons of waste to landfills each year. Almost a third of that is food waste. When food waste degrades, it produces significant amounts of methane, a greenhouse gas roughly 30 times more potent than carbon dioxide. In 2012, New York City spent over \$85 million dollars exporting organics to out-of-state landfills. Like many other cities throughout the world, New York recognizes that separating this material from our waste stream would be economically and environmentally beneficial. Removing organic material from landfills not only reduces methane in the atmosphere, it also presents an opportunity to harness its positive value as a potential clean energy source or compost input.

Mayor de Blasio has already designated landfill reduction as a key component of his environmental agenda. His administration committed to increase residential waste diversion from 15 to 30 percent by 2020 and to expanding residential and commercial organic waste collection. The City Council and the Mayor have also committed to reducing citywide greenhouse gas emissions 80 percent by 2050. A December 2013 PlaNYC report on how to achieve the "80 by 50" goal counted 3.8 million tons of potential emission reductions from solid waste initiatives, including organic waste processing, greater recycling, and using waste-to-energy conversion.

The City is taking steps to capture food waste from our residential and commercial waste stream on a voluntary, pilot basis. In the fall of 2012, the Department of Sanitation (DSNY) began offering curbside collection of organic waste to select schools and institutions. In 2013, the pilot was codified as Local Law 77, requiring DSNY to carry out the program through July 2015. The program currently provides organics collection service to over 100,000 households, 700 schools, and a few agencies and institutions across the five boroughs. On the commercial side, Local Law 146 of 2013 requires that large food establishments recycle their food waste by July 1, 2015, provided that an affordable facility exists within a 100-mile radius of the city that will process the waste at a cost that is competitive with landfills or incinerators. Unfortunately, the largest nearby facility of its kind was forced to shut its food waste operation last October and another facility has yet to be identified.

In addition to voluntary composting programs at farmers markets and community composting sites, the City has encouraged initiatives like the Mayor's Food Waste Challenge, asking restaurants to pledge to a 50 percent reduction of the food waste they send to landfills through composting and other waste prevention strategies. This is a great start. But if the City is to achieve the PlaNYC goal of diverting at least 75 percent of the City's solid waste from landfills by 2030, a significant amount of organics-processing capacity will need to be developed. The barriers are clearly significant, given that almost no such facilities exist to serve the nation's largest source of municipal organic waste. Can New York City truly reach an economy of scale and address organic waste collection and processing challenges?

Based on the findings of the Dig Deeper series, NYLCVEF believes the City can and should pursue more aggressive strategies for capturing organics from the waste stream.



Anaerobic-digester eggs at the Newtown Creek WWTP. (Source: NYC DEP)

Processing Facilities

The most immediate problem New York City faces in diverting significant quantities of organic — specifically food — waste from landfills is that there is scarcely any capacity for processing food waste within a fifty mile radius of the city. To understand the extent of the processing capacity shortfall, full compliance with Local Law 146 would require upwards of 1000 tons per day (tpd) of processing capacity within or near the city. That is in addition to capacity needed to handle any residential and institutional food waste that is collected for composting or digestion. Developing processing capacity is therefore the first priority. We offer four recommendations for reaching this goal:

Maximize the use of anaerobic-digestion capacity at NYC DEP's wastewater treatment plants (WWTPs). Organic waste can be co-digested with sewage sludge. In addition to the eventual 500 tons per day (tpd) of capacity for organics waste projected at the Newtown Creek WWTP (for which a 250-tpd

pre-processing facility for high-quality organics is being developed by Waste Management and for which a Request for Proposals for an additional 250-tpd preprocessing facility is expected to be issued), the City should make maximal provision for high-quality organics waste from commercial or institutional sources at other WWTPs that could accommodate such material.

NYC and private waste collectors should seek opportunities to co-digest high-quality organics at WWTPs outside the city. Material for out-of-city facilities on the Hudson, Long Island Sound, New York Harbor, or in other nearby locations could be preprocessed in the facilities that prepare material for NYC's WWTPs and transported by barge or train.

To accommodate additional quantities of organics, including material of somewhat lower quality than would be amenable to "wet" co-digestion at WWTPs, **NYC should make publicly-owned sites available to facility developers that would be suitable for wet or dry anaerobic-digestion technology or composting facilities**. These sites should be of appropriate size, provide suitable transportation access, and allow adequate buffer distances from already overburdened communities. If these sites are under state or federal control, the City should try to free them for such use.

In order to provide assured access to organic supplies, which is a prerequisite for the long-term supply commitments needed to finance organics-processing facilities, **the City should launch a pilot project to create exclusive franchise zones for commercial organic waste**. In addition to facilitating the financing of new infrastructural capacity, such exclusive franchise zones could provide other public benefits, such as a reduction in truck travel. These franchise zones might also be used to control the collection of non-organic waste and recyclables and/or residential and institutional materials.

Collection Alternatives

It is highly unlikely, given the economic and logistical challenges involved in processing relatively contaminated, low-energy-content organics, that facilities capable of accommodating the type of source-separated material collected through the City's current school-cafeteria program will be developed soon within a practical distance from New York. It is also highly unlikely, given the costs and truck transport associated with collecting organics from high-rise apartment buildings (in addition to the current lack of processing capacity), that the separate collection of this residential material will outweigh its economic and environmental costs. We therefore offer two recommendations for better-managing organics from these sources:



NYLCVEF's panel discussion on organic waste in December, 2014.

Students, school officials, and apartment-dwellers should be encouraged to participate in neighborhood-based composting programs sited on school grounds, in community gardens, and at other local spaces rather than collecting school and high-rise organics by truck for transport to centralized processing facilities. Hands-on participation in closed-loop waste-management and gardening operations could play a useful role in school curricula and in raising local awareness of sustainable urban systems, while avoiding the costs and adverse environmental impacts associated with truck transport to large-scale, centralized facilities.

In-sink grinders connected to sewer systems allow food waste from high-rise apartment buildings to be anaerobically digested. While there are significant energy demands associated with processing a WWTP organic slurry produced by in-sink grinders, as well as incremental nitrogen discharges to surface waters, this method avoids the costs and environmental impacts associated with collecting and transporting these materials by truck. **The City should consider measures to encourage the use of in-sink grinders in appropriately targeted multi-family districts** to divert organics from disposal facilities and to reduce truck trips for separate collection of organics.

Incentivizing Waste Generators

Finally, a **"Save-As-You-Throw**," unit-based pricing system charging NYC residents for refuse disposal, while allowing free or discounted disposal of source-separated organics and recyclables, **would provide an economic incen-tive for generating less waste, recycling more, and participating in com-munity-based, centralized, or "in-sink" organics programs**. Although many complexities would need to be addressed in developing an equitable, revenue-neutral program for New York City (i.e., a program that would also reduce other fees or taxes, so that all residents who produced less waste would actually save money), the many benefits merit the effort.



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