
OPTION:**Construct a Waste-to-Energy Plant
For a Portion of City Refuse**

Savings: \$55 million annually (when completed)

Waste-to-energy (WTE) facilities generate electricity from nonrecyclable refuse, mainly through combustion, but also via emerging technologies such as thermal processing and anaerobic digestion. About 12 percent of garbage generated in the U.S. is converted into energy at 86 modern waste-to-energy facilities, although none exist in New York City. Modern plants produce fewer emissions than allowed under federal regulations and can shrink the volume of the waste during processing by up to 90 percent while generating electricity. A city-built WTE combustion facility would reduce the city's long-term waste export costs and reduce pollution caused by exporting much of our waste to out-of-state landfills.

Currently, the city exports about 11,000 tons of waste per day. Most of it goes to landfills as far away as Georgia and North Carolina. In 2015 the city's average cost to export waste to a landfill was \$101 a ton. About 13 percent of the city's exported waste, mostly from Manhattan, is processed in privately owned WTE plants near the city, at a cost of about \$77 per ton. Greater export distances, rising fuel costs, and a decreasing supply of landfill space will continue to drive up the city's future waste disposal costs. Total waste export costs were \$323 million in 2015 and are projected to grow at about 5 percent a year on average.

If the city built its own WTE combustion plant, equivalent to the size and capacity of an existing advanced technology plant, an additional 900,000 tons of refuse, about 28 percent of the city's annual waste exports, could be diverted from export and landfill. The city would save \$55 million annually on waste disposal once the WTE plant is up and running, relative to projections that reflect costs under the long-term contracts.

Site acquisition and securing the required permits from the state are expected to take four years. IBO's estimate assumes that the plant itself would take 3 years to complete, cost \$741 million, and be financed with 30-year bonds at an interest rate of 5 percent. The cost of running the plant is assumed to be in line with comparable plants, while electricity generated is expected to bring in revenues of \$0.13 per kilowatt hour, and the averted export costs are projected to reach approximately \$161 per ton

PROPOSERS MIGHT ARGUE that advanced technology WTE facilities provide an environmentally friendlier method of waste management than landfill disposal. Furthermore, it has been reported that recycling rates in communities with WTE facilities are 5 percent higher on average than the national recycling rate, which suggests that WTE facilities are compatible with waste management policies that encourage recycling. Also, the plants can be equipped to recover recyclable metals from the waste stream, thereby generating additional revenue.

OPPOSERS MIGHT ARGUE that finding a suitable location in or near the city for the facility will be challenging and that once the plant is built, it will disproportionately affect nearby communities. Some communities might express environmental concerns about WTE facilities, such as issues with ash disposal. They could also argue that the city is already investing in the infrastructure needed to implement its waste export plan, and a change in direction could squander some of that investment. A WTE plant could also discourage ongoing efforts to promote recycling and waste reduction.

OPTION:

Eliminate the Need for Citywide Run-Off Elections

Savings: \$20 million (potential savings every four years, beginning in fiscal year 2018)

Primary elections for citywide offices, which often involve more than two candidates vying for their party's spot on the November general election ballot, currently require that a candidate receive at least 40 percent of votes cast in order to prevail. If no candidate reaches that threshold, a run-off election involving the top two vote getters is required. This most recently occurred in the September 2013 Democratic primary for Public Advocate.

Eligible candidates competing in run-off elections receive an additional allocation of funds from the city's Campaign Finance Board. Even more costly is staffing polling sites for an additional day, printing new ballots, trucking costs associated with transporting voting equipment, and overtime for police officers assigned to polling sites. A run-off election currently costs about \$20 million, depending in part on the amount of matching funds for which candidates are eligible.

This option would save money by eliminating the need for run-off elections through instant run-off voting (IRV), a technique which has been implemented in a number of major American cities such as San Francisco, Portland, Minneapolis, and Oakland. Legislation calling for settling primaries on Primary Day via establishment of instant run-off voting has been introduced in the state Legislature in Albany. In addition, legislation calling for the establishment of instant run-off voting in New York City through referendum was introduced in the City Council last year.

Instant run-off voting allows voters to rank multiple candidates for a single office rather than requiring voters to vote solely for the one candidate they most prefer. The IRV algorithm used to determine the winning candidate essentially measures both the depth and breadth of each candidate's support. Perhaps most significantly, the winner will therefore not necessarily be the candidate with the most first choice votes, particularly if he or she is also among the least favored candidates in the eyes of a sufficient number of other voters.

In an election that uses instant run-off voting, primary voters would indicate their top choices of candidates for an office by ranking them first, second, third, etc. If no candidate receives 50 percent of the first choice votes, then the candidate receiving the fewest first choice votes is eliminated. Individuals who voted for the eliminated candidate would have their votes shift to their second choice. This process continues until one candidate has received 50 percent of the vote.

PROPOSERS MIGHT ARGUE that implementation of instant run-off voting would not only yield budgetary savings for the city but also be more democratic. The preference of more voters would be taken into account using instant run-off voting because turnout on Primary Day is usually a good deal higher than turnout for run-off elections two weeks later.

OPPOSERS MIGHT ARGUE that it is unrealistically burdensome to expect voters to not only choose their most desirable candidate in a primary but to also rank other candidates in order of preference. They might also argue that the current system is more desirable in that the voters who make the effort to turn out for run-offs are precisely those most motivated and most informed about candidates' relative merits.

OPTION:**Use Open-Source Software Instead of Licensed Software for Certain Applications**

Savings: \$14 million annually

Each year the city pays fees to maintain a variety of computer software licenses. Many open-source alternatives to traditional software packages are available at no cost for the software. Under this option the city would reduce its use of licensed software by switching to open-source software. In May 2014, legislation was introduced in the City Council to have the city minimize its contracts for licensed software in favor of open-source software.

One of the city's biggest software expenditures is for its Microsoft Enterprise Licensing Agreement, which pays for all of the city's Microsoft software licenses, including email, server technology, and desktop programs for city employees. In 2015 the city spent \$25 million to maintain its Microsoft licenses. Several cities have transitioned to using open-source software for such functions. For example, Munich, Germany switched from Microsoft to use the open-source systems of Linux and LibreOffice, creating its own "LiMux" system.

Initially, the city would need to invest funds to hire developers to create and install the programs, as well as new applications for specialized city programs that would be compatible with the new systems. Staff would need retraining, though some of these costs would be offset by reducing current spending on training for existing software. If the city were to switch from Microsoft to open-source software and reduce what it is now spending on licenses by one-third as it developed the new programs, the savings would be over \$8 million. In several years, as the city completed the development of its open-source system, the savings could increase to the full cost of the Microsoft licenses.

The city also pays for licenses for other software programs that it uses on a smaller scale, which might be more easily transitioned to open-source software, although city savings would also be much less. For example, many city agencies have individual licenses for statistical software such as SAS, SPSS, or Stata. These packages are used for evaluation, policy analysis, and management. One open-source option is R, an alternative that is popular with academic institutions and used at a variety of large corporations. A city agency with 20 licenses for statistical packages would spend about \$25,000 a year to maintain the licenses. If 10 agencies of roughly that size switched from a commercial package to R, the city could achieve savings of about \$250,000 per year.

PROPOSERS MIGHT ARGUE that open-source software has become comparable or superior to licensed software over time and would allow the city more technological flexibility and independence. Moreover, open-source software is constantly being improved by users, unlike improvements to licensed software that are often available through expensive updates. Switching to open-source software would become easier as more employees in other sectors learn to use the software prior to working for the city.

OPPOSERS MIGHT ARGUE that purchasing software from established companies provides the city with access to greater technical support. In addition, city workers have been trained and are experienced using licensed software. Finally, new software may not interact as well with the licensed software used by other government agencies or firms.