



Solid Waste Disposal Capacity in the Northeast

Prepared by the Northeast Waste Management Officials' Association (NEWMOA)

April 2021

Solid waste officials, researchers, advocates, industry members, and consultants have raised concerns about the available disposal capacity in the Northeast U.S. in recent years. NEWMOA prepared this Report to inform these conversations and provide an overview of current solid waste disposal capacity in the Region¹. In addition to a regional summary, this Report includes disposal and capacity information for each state in the Appendix. Disposal facilities covered in this Report include waste to energy (WTE) facilities that dispose of municipal solid waste (MSW) and landfills that dispose of MSW, WTE ash, construction and demolition (C&D), and/or other bulky wastes, such as furniture and mattresses.

State environmental agencies do not have authority over where solid waste is disposed. The states' overall role in solid waste management is to permit and provide regulatory oversight for disposal facilities that other entities (mostly private) propose, develop, and operate. State environmental agencies do not have the authority, funding, or responsibility for developing new disposal capacity.

Data Considerations and Notes

The estimates of solid waste disposal capacity in this Report are limited to the capacity that is approved and permitted by state authorities as of February 2021 and may be subject to change in the future. Some landfills have the space and conditions that would enable them to expand beyond their currently permitted capacity. However, this expansion requires that the facility go through a process of revising its permits and is not guaranteed. Therefore, only the currently permitted facilities and their approved capacity limits are presented in this Report. Similarly, there is no guarantee that the waste-to-energy (WTE) facilities that are in operation at this time will continue to operate in the future.

This Report focuses only on disposal capacity at facilities located in the eight northeast states that are the members of NEWMOA: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. Some of the solid waste generated in every NEWMOA state is sent to disposal facilities located in a different state. For many NEWMOA states, most of the solid waste transferred out-of-state is sent to disposal facilities located in another NEWMOA state. However, a significant quantity of solid waste is also currently transferred out of the region to disposal facilities located primarily in Ohio, Pennsylvania, and Virginia.²

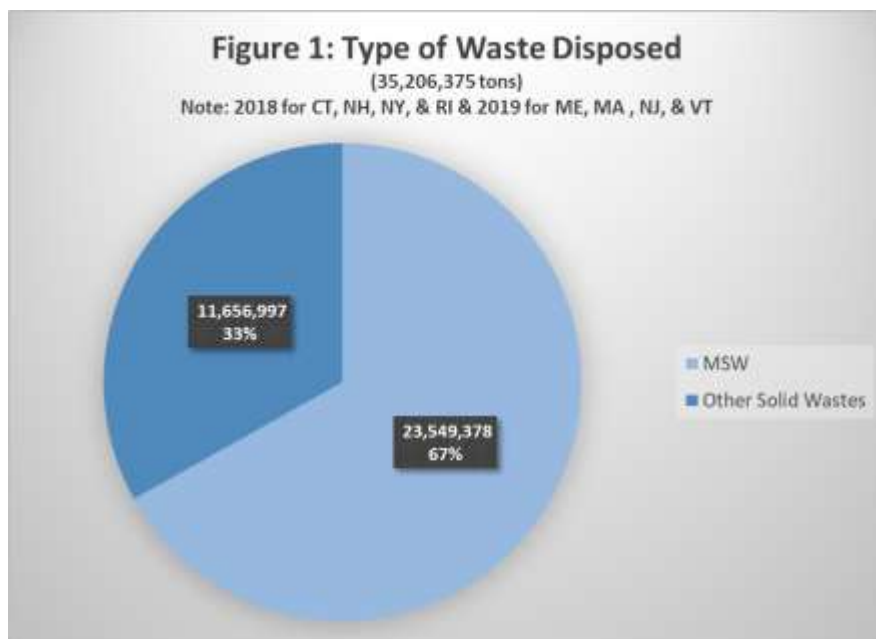
¹ The Region and the northeast are defined as the eight states that are members of NEWMOA: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

² More detail on the interstate flow of MSW and C&D materials is available at: www.newmoa.org/solidwaste/MSW2014DatatReport.pdf and www.newmoa.org/solidwaste/CandDReport2013.pdf, respectively.

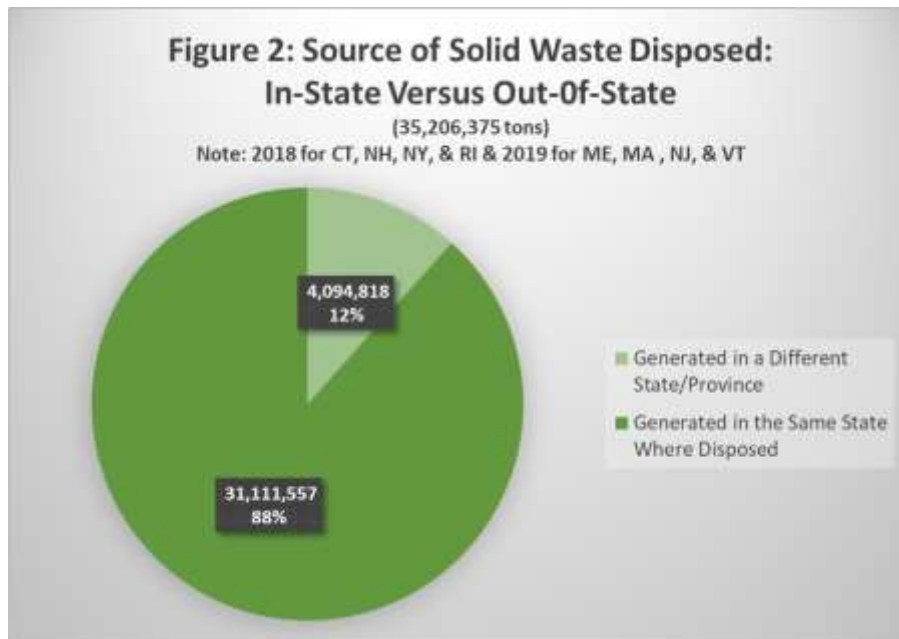
The data summarized in this report were provided by each of the state environmental agencies that are members of NEWMOA. NEWMOA asked its members to provide the most recent disposal capacity data that is available. For four of the respondents that was for the calendar year 2018, and for four respondents that was 2019. In general, state officials report that the quantity, type, and source of waste received by disposal facilities does not vary significantly from year-to-year. With few exceptions, the disposal data presented in this Report does not include the use of various materials as alternative daily cover (ADC) and other uses at landfills. The quantity of ADC used at landfills can be significant; however, the types of materials used as ADC vary considerably between facilities and states making data aggregation beyond the scope of this Report.

Regional Summary

Solid waste disposal facilities located in the northeast disposed of a total of 35,180,905 tons of solid waste in the reporting period. As shown in Figure 1, 67 percent of the solid waste disposed of at facilities in the Region was MSW, and 33 percent was other wastes, including C&D debris and WTE ash. WTE facilities dispose of mainly MSW, and landfills are used for the disposal of other types of solid waste, in addition to MSW. The percentage of total solid waste disposed of at facilities located in-state that is MSW ranges from 41 percent in Maine to 82 percent in Rhode Island.

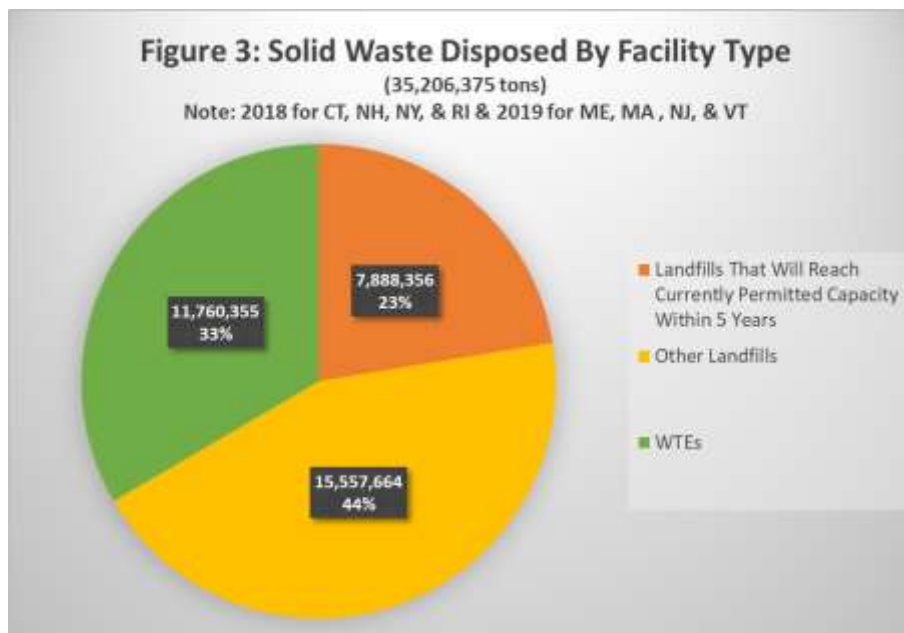


As shown in Figure 2, region-wide, 88 percent of solid waste disposed of was generated in the same state as the disposal facility, and 12 percent of what was disposed of was generated in a different state, province, or territory. For disposal facilities in a state, the percentage of total waste disposed of that was generated in that same state ranges from 100 percent in Rhode Island to 55 percent in New Hampshire.



Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, and New York have WTE facilities. A total of 31 WTE facilities disposed of about 33 percent of the solid waste that was disposed of at facilities in the Region as shown in Figure 3. The percentage of disposed solid waste that WTE facilities handled varied from 10 percent in New Hampshire to 73 percent in Connecticut.

WTE facilities generate a significant quantity of ash. For the covered years, region-wide 2,424,301 tons required landfill disposal. WTE facilities in Connecticut, Massachusetts, New Hampshire, and New York sent ash to landfills in Massachusetts. All five of the landfills in Massachusetts that dispose of WTE ash will reach their currently permitted capacities within the next five years.



Currently, there are 87 landfills in the Region, and these handle 67 percent of the solid waste that is disposed of. As shown in Figure 3, based on the currently permitted landfill disposal capacity in the

region, the landfills that received approximately 23 percent of the total solid waste disposed of will reach their currently permitted capacity within the next five years.³ If additional capacity is not permitted, 7,888,356 tons⁴ of solid waste that went to those facilities will need to be reduced, recycled, or find new disposal locations before 2026.

About NEWMOA

The Northeast Waste Management Officials' Association ([NEWMOA](http://www.newmoa.org)) is a non-profit, non-partisan, interstate association whose membership is composed of the state environment agency programs that address pollution prevention, toxics use reduction, sustainability, materials management, hazardous waste, solid waste, emergency response, waste site cleanup, underground storage tanks, and related environmental challenges in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

NEWMOA provides a strategic forum for effectively solving environmental problems through collaborative regional initiatives that advance pollution prevention and sustainability, promote safer alternatives to toxic materials in products, identify and assess emerging contaminants, facilitate adaptation to climate change, mitigate greenhouse gas sources, promote reuse and recycling of wastes and diversion of organics, support proper management of hazardous and solid wastes, and facilitate clean-up of contaminant releases to the environment.

NEWMOA's long term goals are to:

- Support and strengthen state efforts to implement policies, regulations, and programs
- Promote interstate coordination and develop innovative strategies to solve critical and emerging environmental problems
- Develop and enhance the capabilities and knowledge of state officials so that they are well trained, able to adjust to rapid changes in technology, and respond effectively to emerging environmental challenges
- Articulate state program views on federal policy developments, programs, and rulemakings
- Cultivate and enhance relationships among member states, federal agencies, colleges and universities, and stakeholders
- Engage with and educate the regulated community and the public

For more information, visit www.newmoa.org.

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- Anthony Fontana, New Jersey Department of Environmental Protection

³ A landfill in Maine that received 545,603 tons in 2019 has submitted an application for expansion.

⁴ 7,342,753 tons if the Maine landfill expansion application is approved.

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Jennifer Griffith, NEWMOA Project Manager, drafted this Report with the assistance of the staff listed above. Terri Goldberg, NEWMOA Executive Director supervised the preparation of the Report.

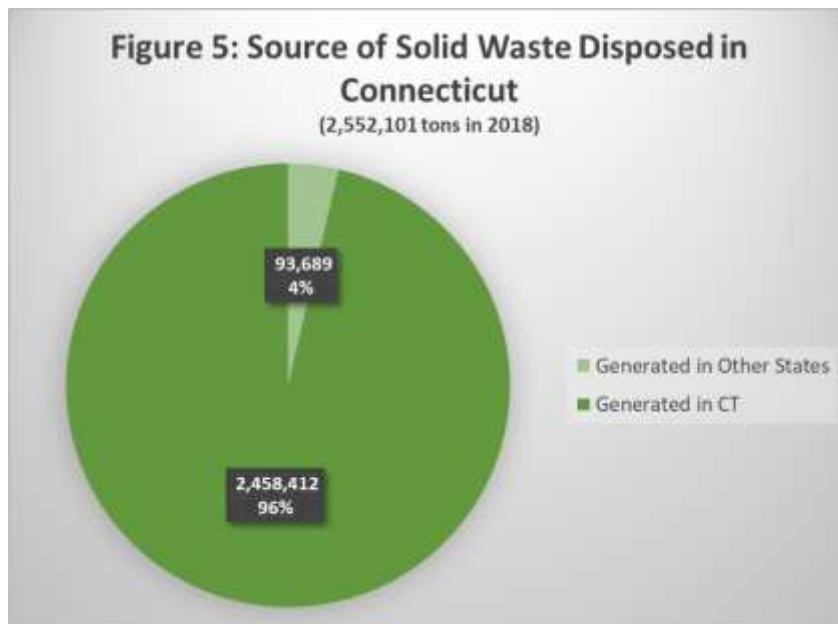
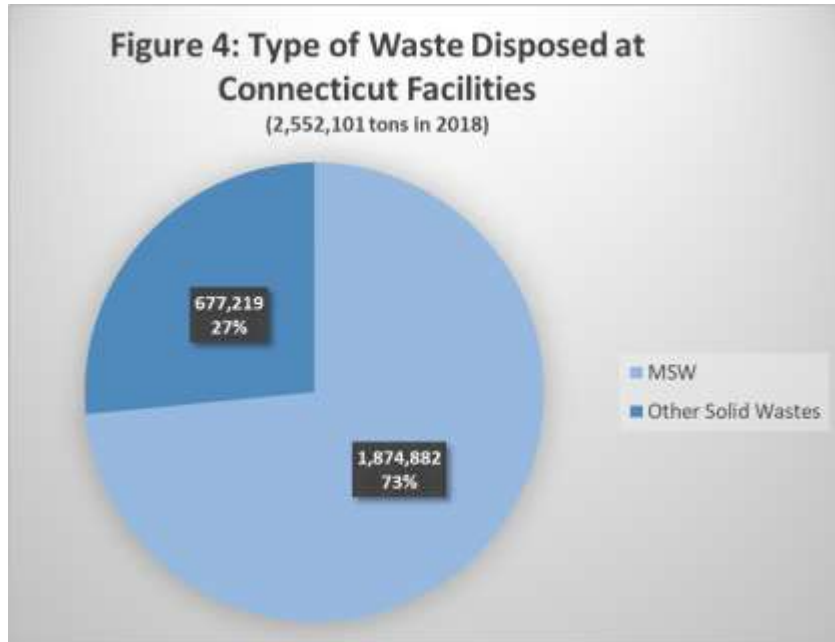
Disclaimer

The views expressed in this presentation do not necessarily reflect those of each of the NEWMOA-member states. Mention of any company, process, or product name should not be considered an endorsement by NEWMOA or the NEWMOA-member states.

Appendix State-specific Disposal Capacity Data

Connecticut [2018 Data]

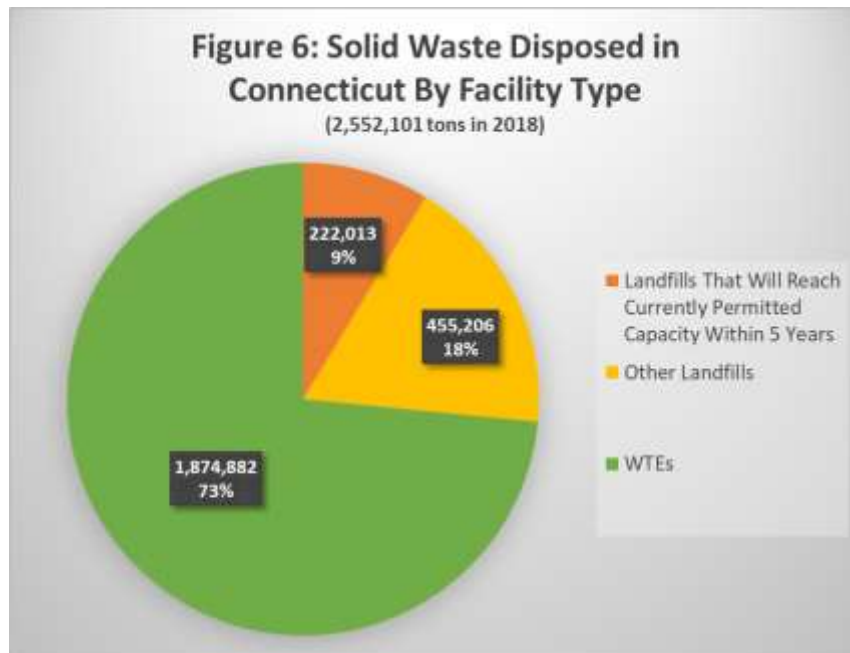
In Connecticut, there are 6 solid waste landfills, 5 WTE facilities, and 1 WTE ash landfill that disposed of a total of 2,552,101 tons of solid waste in 2018. As shown in Figure 4, an estimated⁵ 73 percent of the total disposed of was MSW, and 27 percent was such other solid waste as C&D debris and WTE ash. An estimated⁶ 4 percent of the solid waste that was disposed of at Connecticut facilities (93,689 tons) in 2018 was generated in other states as shown in Figure 5.



⁵ Assumes 100 percent of waste disposed at WTEs was MSW.

⁶ Assumes 100 percent of waste disposed at WTEs was generated in CT.

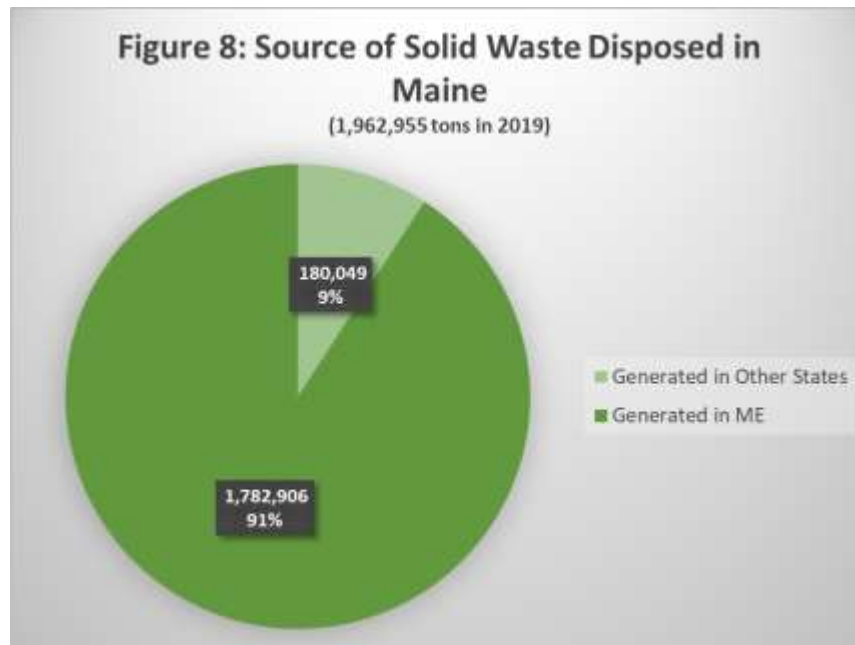
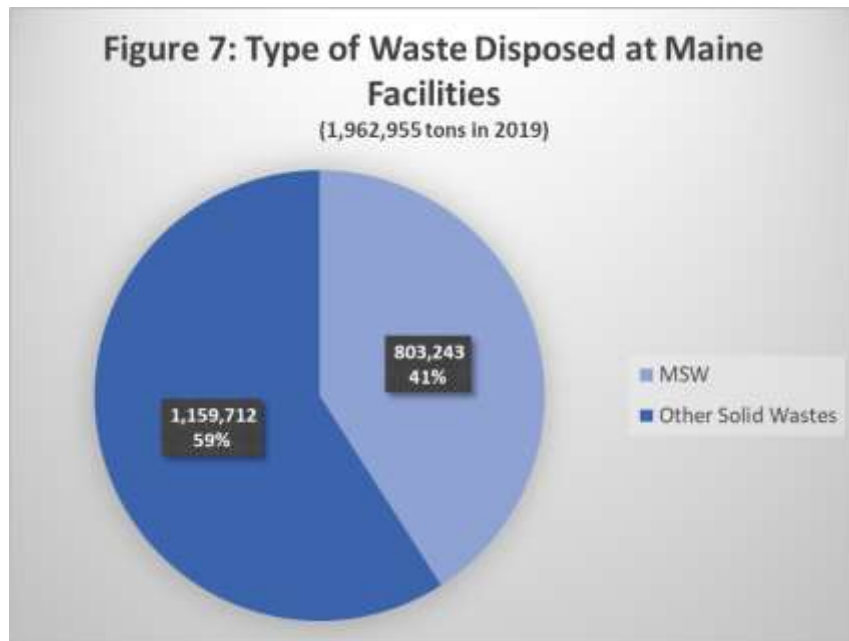
There are six solid waste landfills operating in Connecticut all of which dispose of bulky wastes, such as C&D debris. None of these landfills disposed of MSW. A total of 9 percent of the total solid waste disposed of (a total of 223,816 tons in 2018) in Connecticut went to these 6 bulky waste landfills. The majority of the tonnage went to one landfill, and that landfill will reach its currently permitted capacity by 2025 as shown in Figure 6.



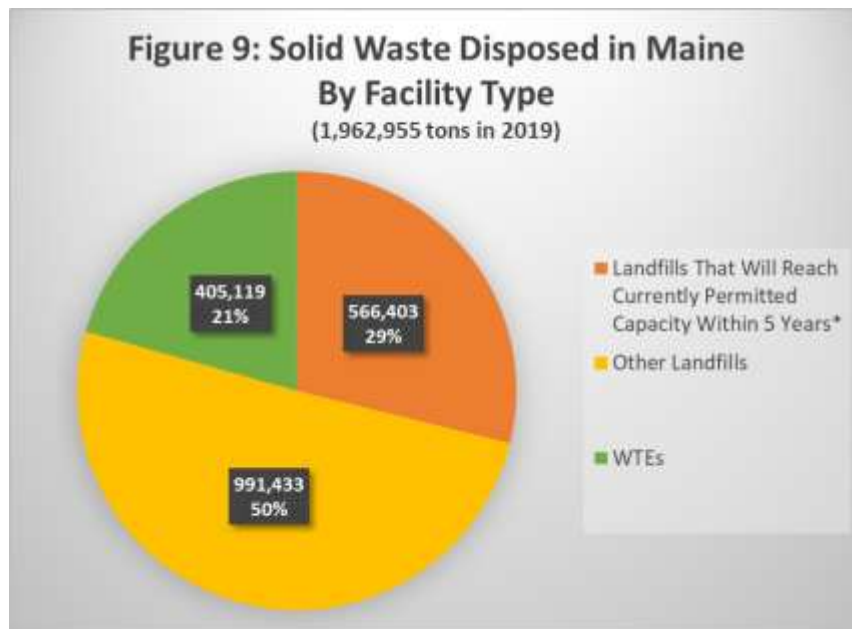
As shown in Figure 6, the 5 WTE facilities in Connecticut disposed of 1,874,882 tons or 73 percent of the solid waste disposed of in 2018. The WTE facilities generated a total of 473,505 tons of ash in 2018; 83 percent of which was sent to the WTE ash landfill in Connecticut, and 17 percent was sent to landfills in Massachusetts. The WTE ash landfill in Connecticut received 453,403 tons in 2018 from WTE facilities in Connecticut and New York.

Maine [2019 Data]

In Maine, 7 solid waste landfills, 3 WTE facilities, and 2 WTE ash landfills disposed of a total of 1,962,955 tons of solid waste in 2019. As shown in Figure 7, 41 percent of the total solid waste disposed of in Maine was MSW, and 59 percent was such other solid waste as C&D debris and WTE ash. An estimated 9 percent of the solid waste that was disposed of (180,049 tons) in 2019 was generated in other states, as shown in Figure 8. Waste was received from facilities located in every NEWMOA state except New Jersey.



As shown in Figure 9, the solid waste and WTE ash landfills disposed of a total of 1,5577,836 tons or 79 percent of the total solid waste disposed of in Maine in 2019. The large commercial landfill that received approximately 28 percent of the total 2019 tonnage disposed of in Maine will reach its currently permitted capacity in 2023. However, that landfill has submitted an application for expansion that would add capacity for 15 or more years, if it is approved. The other large landfill in Maine is anticipated to reach its currently permitted capacity by 2032.



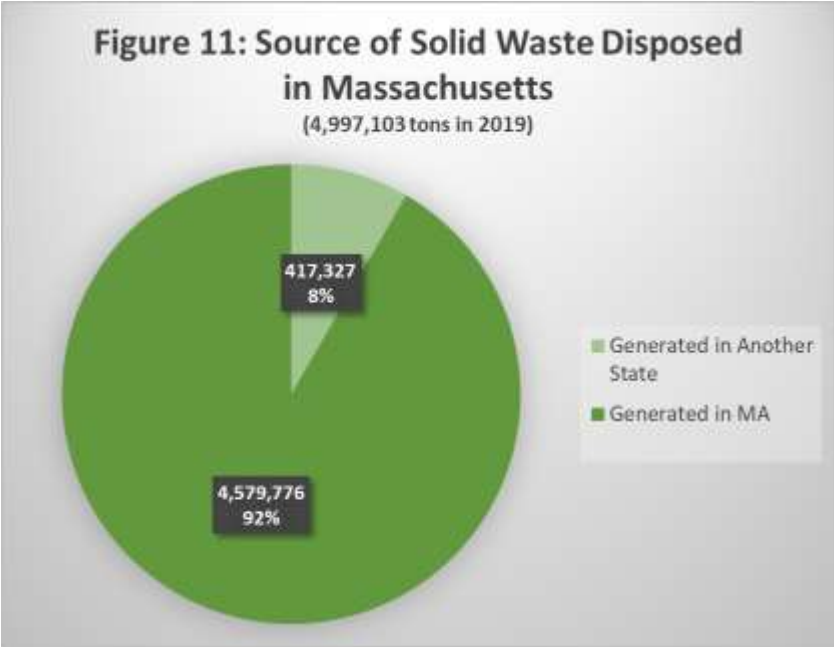
* Note: a landfill that disposed of 545,603 tons in 2019 has submitted an application to expand.

As shown in Figure 9, the 3 WTE facilities in Maine disposed of 405,119 tons or 29 percent of the solid waste disposed of in 2019. These WTE facilities generated a total of 101,719 tons of ash in 2019. There are 2 landfills in Maine that exclusively dispose of WTE ash, and they received a total of 64,541 tons of ash in 2019. The other 37,178 tons went to another solid waste landfill in Maine.

Massachusetts [2019 Data]

In Massachusetts, 11 solid waste landfills, 7 WTE facilities, and 2 WTE ash landfills disposed of 4,997,103 tons of solid waste in 2019. As shown in Figure 10, 80 percent of the total disposed of was MSW, and 20 percent was such other solid wastes as C&D debris and WTE ash. Approximately 8 percent of the solid waste that was disposed of (417,327 tons) in 2019 was generated in other states, as shown in Figure 11. Waste received from other states was primarily from Rhode Island in 2019. Waste generated in Connecticut was also received in 2019, as well as smaller quantities generated in New Hampshire and New York.





As shown in Figure 12, the 13 solid waste and WTE ash landfills disposed of 1,785,535 tons or 36 percent of the total solid waste disposed of in Massachusetts in 2019. In the next 5 years (by 2025), 9 landfills that disposed of approximately 25 percent of the total 2019 tonnage will reach their currently approved capacities as shown in Figure 12. Within ten years (by 2030), three more solid waste landfills will reach their currently approved capacities. The other landfill will reach its currently approved capacity in 2031.

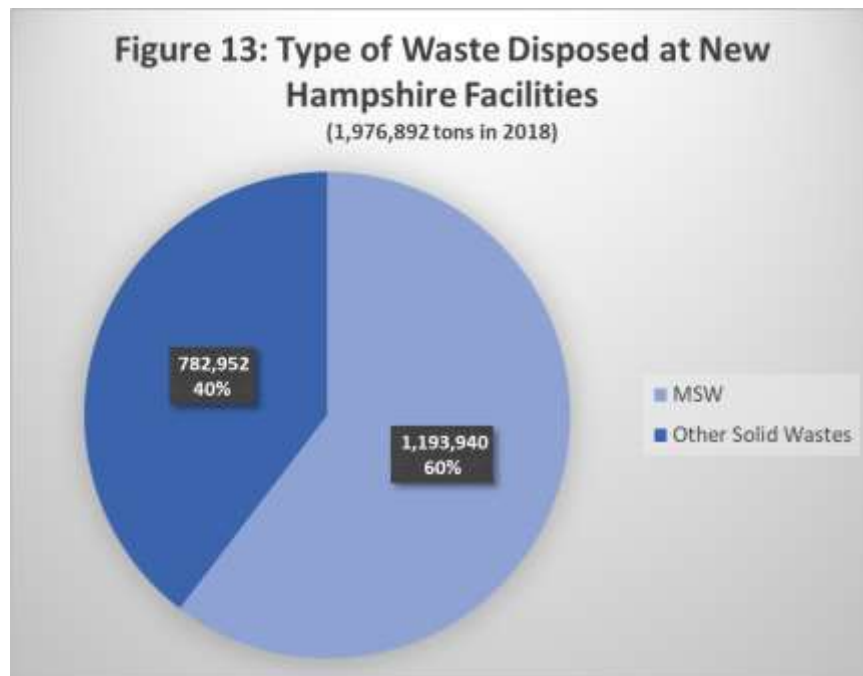


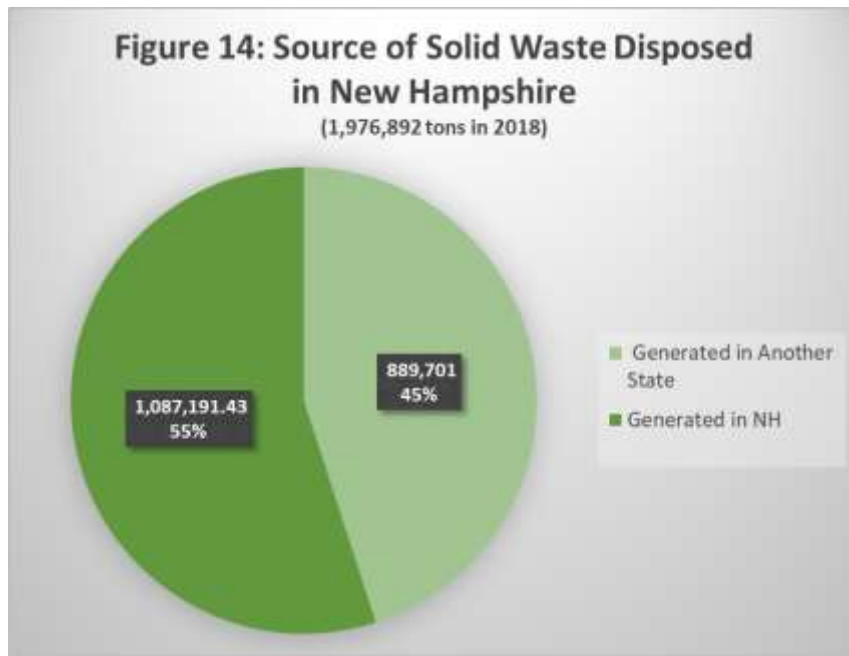
As shown in Figure 12, the 7 WTE facilities disposed of 3,211,568 tons or 64 percent of the solid waste disposed of in 2019. The WTE facilities generated 681,858 tons of ash in 2019. All of the ash generated by Massachusetts WTE facilities was managed at landfills located in Massachusetts. There are two

landfills in Massachusetts that dispose of WTE ash only. These 2 landfills disposed of 208,544 tons of WTE ash in 2019; 26 percent of which was generated in Connecticut. Three other landfills in Massachusetts dispose of mostly WTE ash and received the remaining quantities of ash generated by Massachusetts WTE facilities. One of these landfills received a significant quantity of WTE ash that was generated in New York in 2019, as well as some WTE ash generated in Connecticut and New Hampshire. Within the next five years (by 2025), all five of the landfills that dispose of WTE ash in Massachusetts will reach their currently approved capacity.

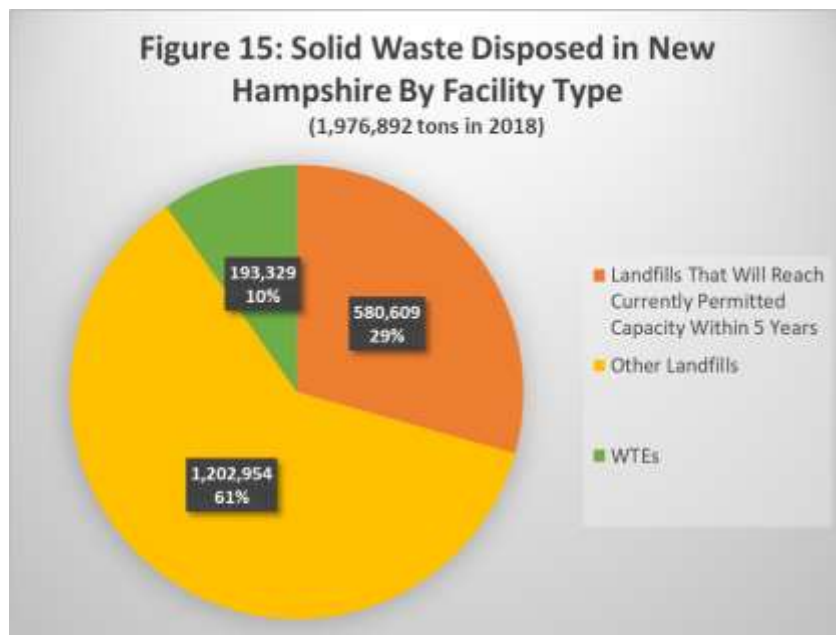
New Hampshire [2018 Data]

In New Hampshire, 6 solid waste landfills and 1 WTE facility disposed of a total of 1,976,892 tons of solid waste in 2018. As shown in Figure 13, 60 percent was MSW and 40 percent was such other solid waste as C&D debris and asbestos-containing wastes. Approximately, 45 percent of the total solid waste disposed in 2018 was generated in other states as shown in Figure 14. Waste received from other states was primarily from Massachusetts in 2018. Waste generated in Maine and Vermont was also received in 2018, as well as smaller quantities that were generated in Connecticut and Rhode Island.





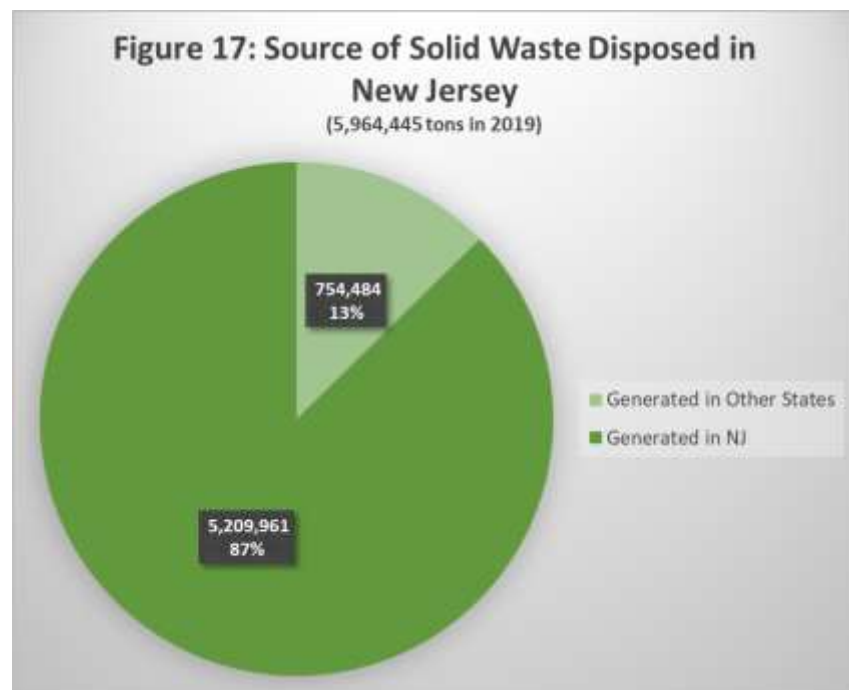
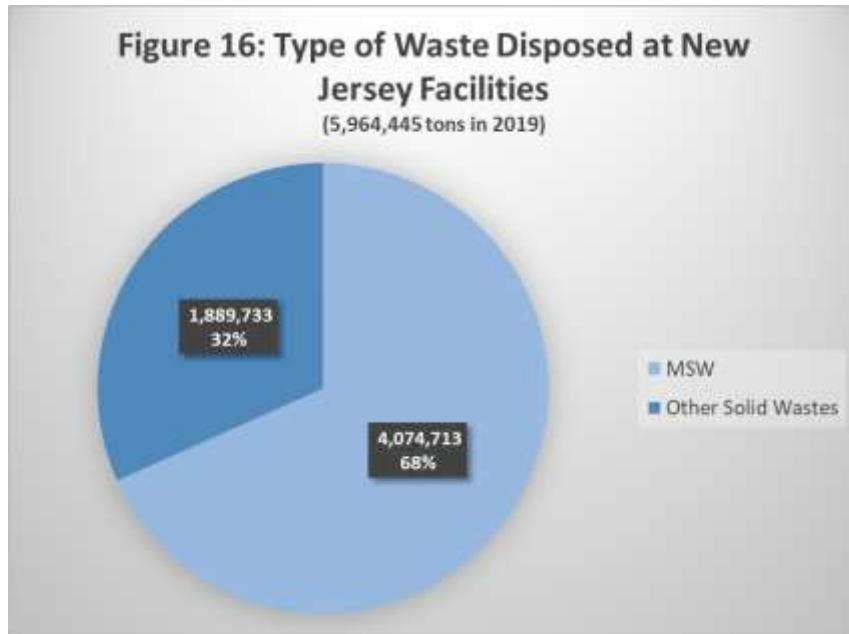
As shown in Figure 15, the 6 landfills disposed of 1,783,563 tons, or 90 percent of the solid waste disposed of in 2018. The remaining 10 percent, or 193,329 tons, was disposed of by New Hampshire’s WTE facility. Assuming no additional capacity is permitted, three of the landfills in New Hampshire are likely to reach their currently-permitted capacity within the next five years (by 2025). As shown in Figure 15, these 3 landfills disposed of approximately 29 percent of the total tonnage disposed of in 2018. Within 10 years (by 2030), a smaller landfill may reach its currently permitted capacity, again assuming this facility does obtain approval for expanded capacity before that time. New Hampshire’s largest commercial landfill, which received the most out-of-state waste in 2018 (729,850 tons), has permitted capacity through at least 2034.



NH’s WTE facility generated 48,535 tons of ash in 2018. The ash was disposed of at a landfill in Massachusetts.

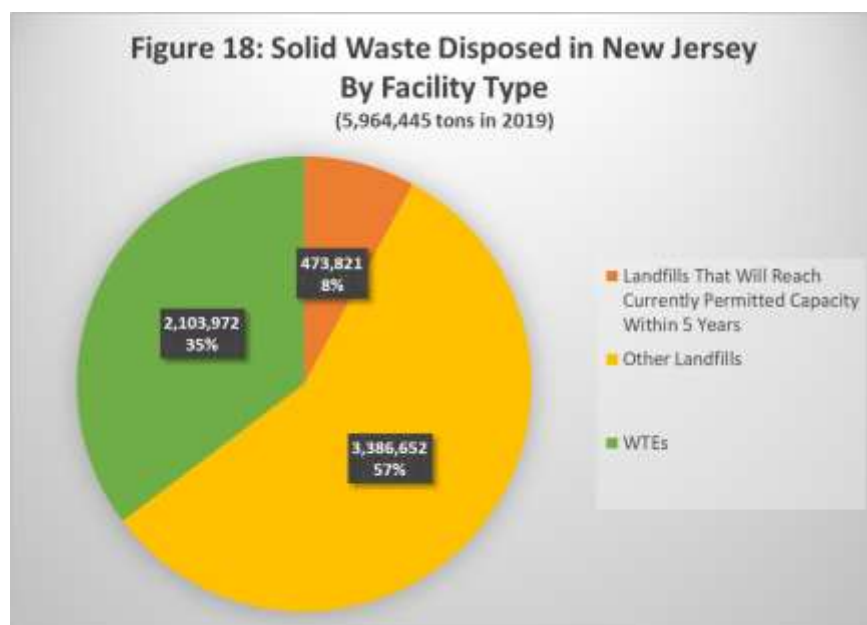
New Jersey [2019 Data]

In New Jersey, 13 solid waste landfills and 5 WTE facilities disposed of a total of 5,984,445 tons of solid waste in 2019. As shown in Figure 16, 68 percent was MSW, and 32 percent was such other solid waste as C&D debris and WTE ash. Approximately 754,484 tons or 13 percent of the total solid waste disposed of in New Jersey in 2019 was generated in other states, as shown in Figure 17. Waste received from other states was primarily from New York and Pennsylvania in 2019. Waste generated in Connecticut and Rhode Island was also received in 2019, along with waste generated in other states and territories that are outside the Region, including Delaware, Maryland, North Carolina, Ohio, Puerto Rico, Virginia, and West Virginia.



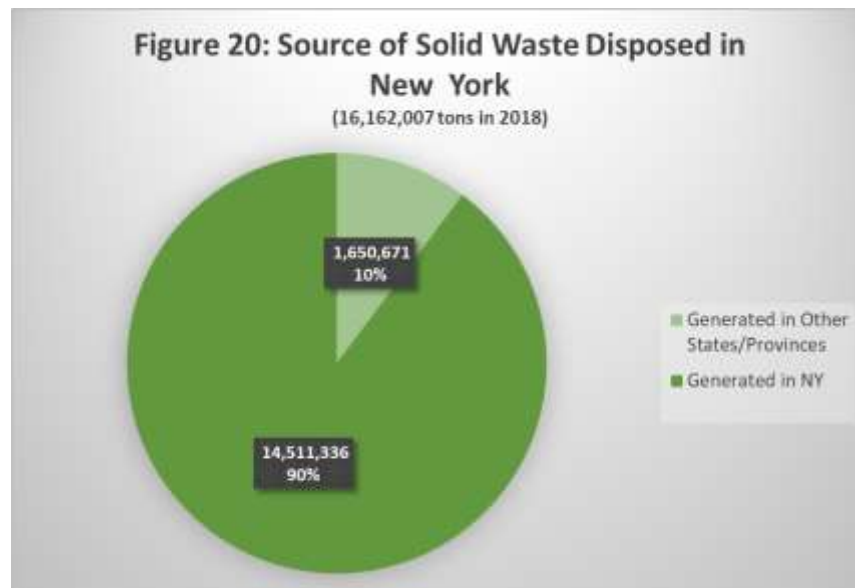
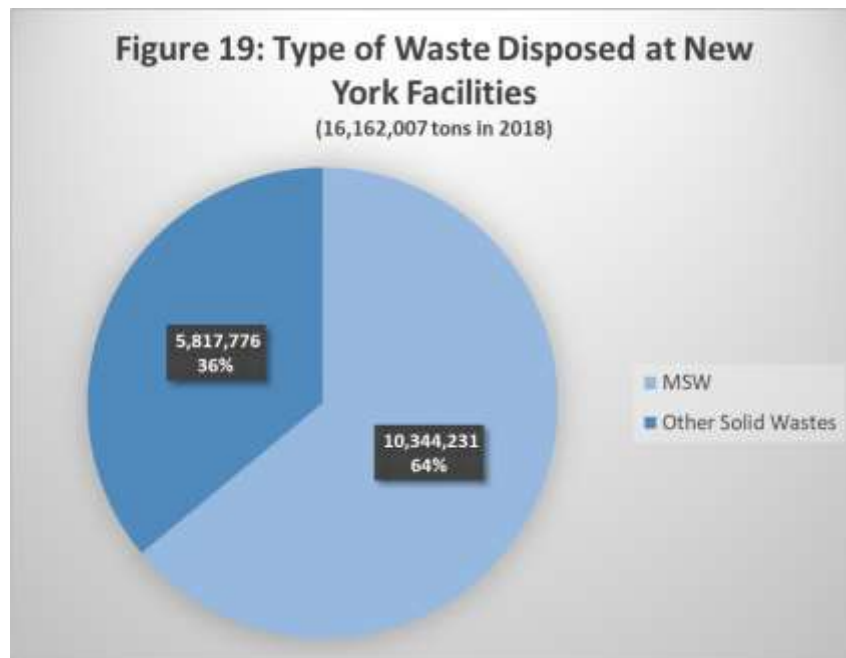
The 13 solid waste landfills disposed of 3,860,473 tons or 65 percent of the total solid waste disposed of in 2019 as shown in Figure 18. In the next five years (by 2025), 2 landfills, which disposed of approximately 8 percent of the total 2019 tonnage, will reach their currently permitted capacity. Within 10 years (by 2030), 3 additional solid waste landfills that disposed of approximately 29 percent of the total 2019 tonnage will reach their currently permitted capacity. Another 7 landfills are projected to reach their currently permitted capacities between 2032 and 2066. The other landfill has permitted capacity until approximately 2117.

The 5 WTE facilities in New Jersey disposed of 35 percent of the solid waste disposed of, or a total of 2,103,972 tons in 2019, as shown in Figure 18. The WTE facilities generated a total of 439,429 tons of ash in 2019. All of the ash generated by New Jersey WTEs was managed at landfills located in New Jersey. One of the five WTE facilities ceased operation in March 2019.



New York [2018 Data]

In New York, 35 solid waste landfills, 10 WTE facilities, and 1 WTE ash landfill disposed of a total of 16,162,007 tons of solid waste in 2018. As shown in Figure 19, 64 percent was MSW, and 36 percent was such other solid waste as C&D debris and WTE ash. Approximately, 1,650,671 tons or 10 percent of the total solid waste disposed of in New York in 2018 was generated in other states and Canada, as shown in Figure 20. Waste received from other states and provinces was primarily from Connecticut, Massachusetts, New Jersey, and Ontario in 2018. Waste generated in Maine, New Hampshire, Rhode Island, and Vermont was also received in 2018, along with waste generated in many states that are outside the Region, including Delaware, Illinois, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia.



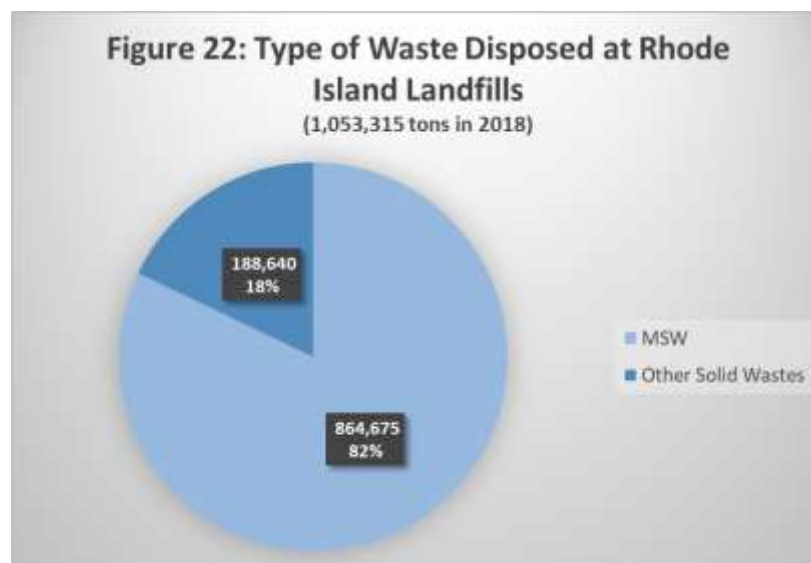
The 36 solid waste and WTE ash landfills disposed of 12,190,552 tons or 76 percent of the total solid waste disposed of in New York in 2018 as shown in Figure 22. In the next five years (by 2025), 9 landfills, which disposed of approximately 30 percent of the total 2018 tonnage, will reach their currently permitted capacity. Within ten years (by 2030), four additional solid waste landfills that disposed of approximately ten percent of the total 2018 tonnage will reach their currently permitted capacity. Another 20 landfills are projected to reach their currently permitted capacities between 2032 and 2066, and the other 2 landfills have permitted capacity until approximately 2126.



As shown in Figure 21, the 10 WTE facilities disposed of 3,971,485 tons or 24 percent of the solid waste disposed of in 2018. The WTE facilities generated a total of 684,300 tons of ash in 2018. Most of the WTE ash was managed at landfills located in New York; however, two WTE facilities sent ash to landfills in Connecticut and Massachusetts. Four of the New York landfills used for WTE ash disposal will reach their currently permitted capacity within 5 years, and a fifth will reach its currently permitted capacity within 10 years. There is one landfill in New York that disposes of only WTE ash, and it received 52,765 tons of ash exclusively from WTE facilities located in New York in 2018. It is estimated that it will reach its currently permitted capacity in 2032.

Rhode Island [2018 Data]

In Rhode Island, there are two solid waste disposal facilities – a small municipal landfill and a large quasi-governmental landfill. The landfills disposed of a total of 1,053,315 tons of solid waste in 2018, 82 percent of which was MSW, and 18 percent was other solid wastes as shown in Figure 22. None of the solid waste disposed of in 2018 was generated in other states. The small landfill reached its permitted capacity in 2020, and the large landfill is projected to reach its currently permitted capacity in 2031.



Vermont [2019 Data]

In Vermont, there is one solid waste disposal facility - a landfill that disposed of a total of 537,557 tons of solid waste in 2019, 73 percent of which was MSW and 27 percent was other solid wastes as shown in Figure 23. Approximately 20 percent of the total solid waste disposed of in 2019 was generated in other states as shown in Figure 24. Waste received from other states was primarily from Massachusetts in 2019. Waste generated in Connecticut, New Hampshire, and New York was also received. None of the waste from out-of-state was MSW. All of it was other wastes, including C&D debris, contaminated soil, fly ash, wastewater treatment plant (WWTP) sludge, asbestos-containing wastes, and storm sewer cleanout grit. It is estimated that the landfill will reach its currently permitted capacity in 2040.

