7 SUSTAINABLE WASTE MANAGEMENT

We need to produce less waste while shifting to more sustainable waste treatment practices. These practices include locally sited material and energy recovery processes such as composting and technologies that convert organic waste to gas, electricity, or liquid fuels.

Connecting Outcomes to Goals

Net-Zero Emissions

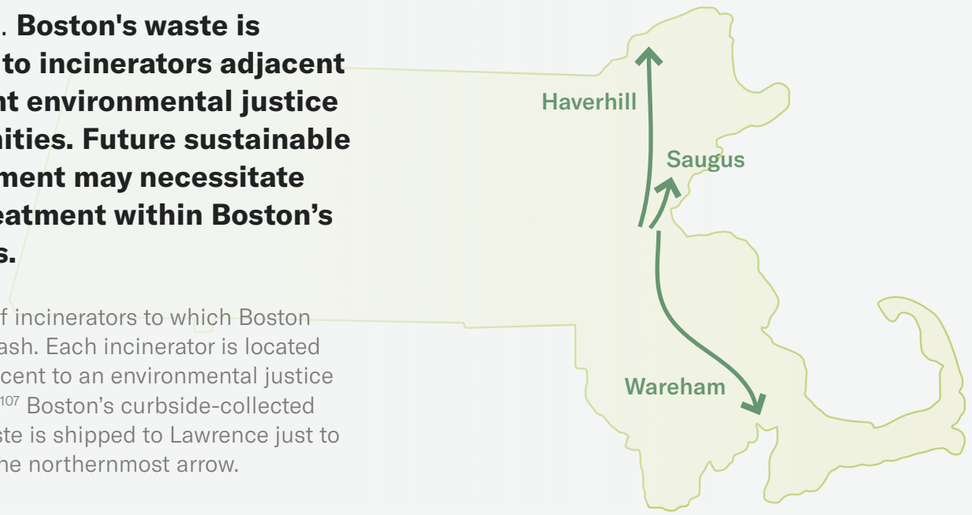
Reducing waste incineration reduces emissions. Energy recovery from organic waste can provide a modest amount of renewable fuels that can be used to displace fossil fuels.

Increasing Social Equity

Reducing incinerated waste reduces pollution levels in impacted communities. Future waste processing facilities will need to consider past harms in siting decisions.

Figure 12. **Boston's waste is shipped to incinerators adjacent to distant environmental justice communities. Future sustainable management may necessitate some treatment within Boston's boarders.**

Locations of incinerators to which Boston sends its trash. Each incinerator is located in or is adjacent to an environmental justice community.[107] Boston's curbside-collected organic waste is shipped to Lawrence just to the left of the northernmost arrow.



Progress Assessment

Boston's municipal solid waste is another place's problem: It is shipped to incinerators located miles away to be inefficiently turned into emissions, ash, and electricity (Figure 12). Mounting regional waste production and reliance on aging incinerators will challenge this approach as costs and the need to ship further increase. Boston's Zero Waste Plan[108] and the state's 2030 Solid Waste Master Plan[36] both seek to avoid this outcome with ambitious targets for waste reduction and diversion. In the absence of a transformative state legislation to better manage single use plastics—such as that adopted in Maine and Oregon requiring manufactures to bear some of the cost of waste management—Boston is unlikely to achieve its zero-waste goal[108] and the associated reductions in emissions from waste. Increased recycling and the City's plastic bag ordinance, although commendable, simply do not have the scalability to make an impact on waste sector emissions.

Still, Boston, with the help of its residents, can smartly manage a significant portion of its waste to support net-zero goals. The City is piloting residential food waste curbside collection,[109] building on the success of Cambridge and state-mandated[110] commercial efforts to collect and sustainably treat organic waste. The increasing collection of organic waste across the region will require the development of composting and energy recovery facilities in a way that balances costs, siting constraints, transportation distance, energy needs, and community impact. Energy recovery may include: existing technologies such as anaerobic digestion, which has specific siting challenges; or emerging ones that may be more advantageous, but by being largely unknown will be viewed by the public as being more risky.

Continuing existing and pursuing new waste treatment pathways will involve tradeoffs between advancing progress and managing undesirable outcomes. Efforts to advance these approaches have faced conflicting interests among stakeholders, particularly with respect to siting new waste treatment infrastructure and transporting waste through communities.[111,112] The City of Boston will soon be leveraging $3 million in funding to explore municipal infrastructure for food waste disposal and a center for hard-to-recycle materials.

Equity Implications & Indicators

Waste Diversion: Diverting waste away from incinerators will demonstrate that Boston is lowering its impact on communities burdened by Boston's waste.

Future waste treatment facilities must be planned and sited in a way that does not unduly burden frontline communities.

Big Lifts

Local Energy Planning: Proactive local energy planning will be essential for siting future waste energy recovery facilities.