



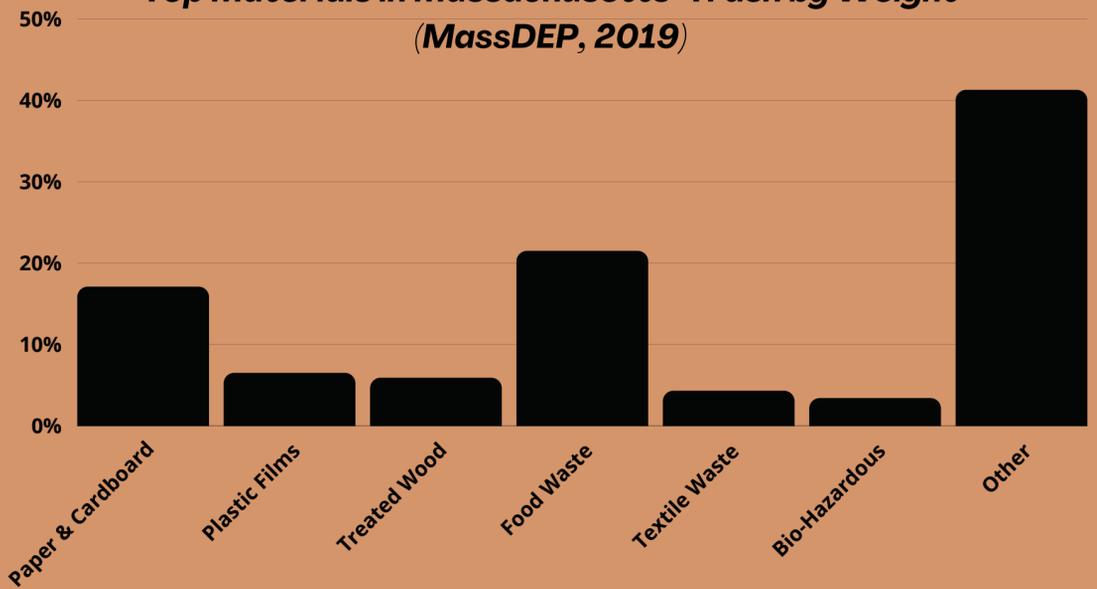
WASTE, MATERIALS MANAGEMENT & CLIMATE POLLUTION



WHAT IS THE PROBLEM?

- Landfills are the third-largest contributor of human-related methane emissions, accounting for **14.3%** of U.S. methane emissions (2021)
- Methane is 28x more effective at trapping heat in the atmosphere than carbon dioxide
- Treatment of wastewater also emits methane & nitrous oxide

Top Materials in Massachusetts' Trash by Weight
(MassDEP, 2019)



WHAT ARE COMMON EFFECTS?

WATER SUPPLY EFFECTS



- Overall decrease in the availability of freshwater
- Improperly disposed garbage can break down and pollute local groundwater sources

BIODIVERSITY AND NATURAL HABITAT EFFECTS



- Landfills can breed diseases, causing biodiversity to decline
- Improper disposal of hazardous materials can lead to contamination of nearby neighborhoods & wildlife habitats
- Acid rain causes algal blooms, harming local fish populations

HUMAN HEALTH IMPACTS



- Short-term exposure to ammonia and hydrogen sulfide in the air can cause:
 - Irritation of the eyes, nose and throat
 - Headaches and nausea
 - Breathing difficulties

Greater Worcester Region Waste Sector Carbon Dioxide Emissions (MT CO2)

Solid Waste Disposal	339,866
Biological Treatment of Waste	768
Incineration and Open Burning	13,998
Wastewater Treatment and Discharge	101,424
Total	456,055

GOALS TO CONSIDER FOR THE WASTE AND MATERIALS MANAGEMENT SECTOR

1

Phase out difficult to recycle materials

2

Reduce the amount of waste being disposed overall, especially food waste

3

Improve quality of / reduce contamination in residential recycling streams

4

Sustainably manage disposal facilities within the MSA