

THE COST OF BURNING TRASH

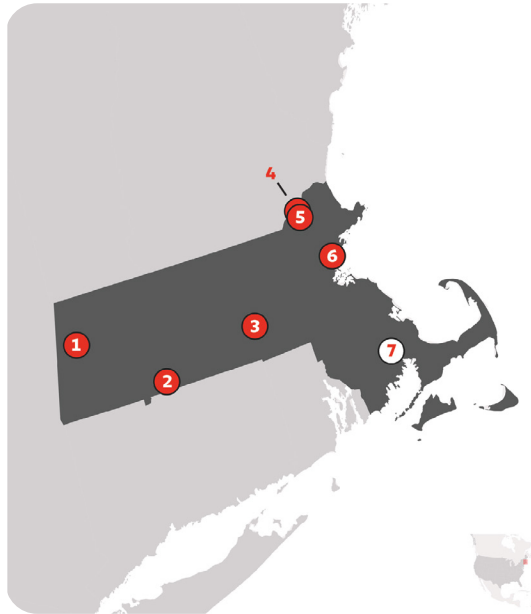
HUMAN AND ECOLOGICAL IMPACTS OF INCINERATION IN MASSACHUSETTS

Massachusetts (MA) has the third highest number of Municipal Solid Waste (MSW) incinerators in the United States, with seven incinerators. Massachusetts burns more household waste per capita than any other state in the U.S.¹ The cost of burning trash in municipal incinerators are significant to human and ecological health, and expensive for community members and municipalities.

VISUALIZING THE COST

EJ Community ●
Non-EJ Community ○

- 1 Pittsfield Resource Recovery Facility**
(Pittsfield)
- 2 Pioneer Valley Resource Recovery Facility**
(Agawam)
- 3 Wheelabrator Millbury**
(Millbury)
- 4 Haverhill Resource Recovery Facility**
(Haverhill)
- 5 Wheelabrator North Andover**
(North Andover)
- 6 Wheelabrator Saugus**
(Saugus)
- 7 SEMASS Resource Recovery Facility**
(Rochester)



The map shows Massachusetts MSW incinerators and their location in environmental justice (EJ) communities (low-income or communities of color disproportionately impacted by environmental burdens and pollution).² Incinerators are often located in communities which face cumulative impacts from multiple sources of pollution. **In MA, 6 of the 7 MSW incinerators are located within a 3-mile radius of an EJ community.**

THE COST TO THE PLANET

Waste incineration releases **significant greenhouse gases** into the atmosphere contributing to climate change. In 2018, MSW incinerators in the U.S. emitted 11 million tons of carbon dioxide and are **nearly as carbon-intensive as burning coal**.⁴ Despite these contributions to air and climate pollution, incinerators have tried to re-brand as “waste-to-energy” facilities, and in some states, **lobbying has earned renewable energy status and taxpayer-funded subsidies**, which helps keep them afloat. This preferential treatment uses money and resources that could be going towards true clean energy like solar and wind.⁵

In Massachusetts, burning municipal solid waste is considered a renewable energy source according to their Renewable Portfolio Standard (RPS).⁶ The MA RPS gives incinerators access to renewable energy subsidies funded through taxpayer dollars that contribute to the profitability of this dirty industry. **These MA policies must change.**

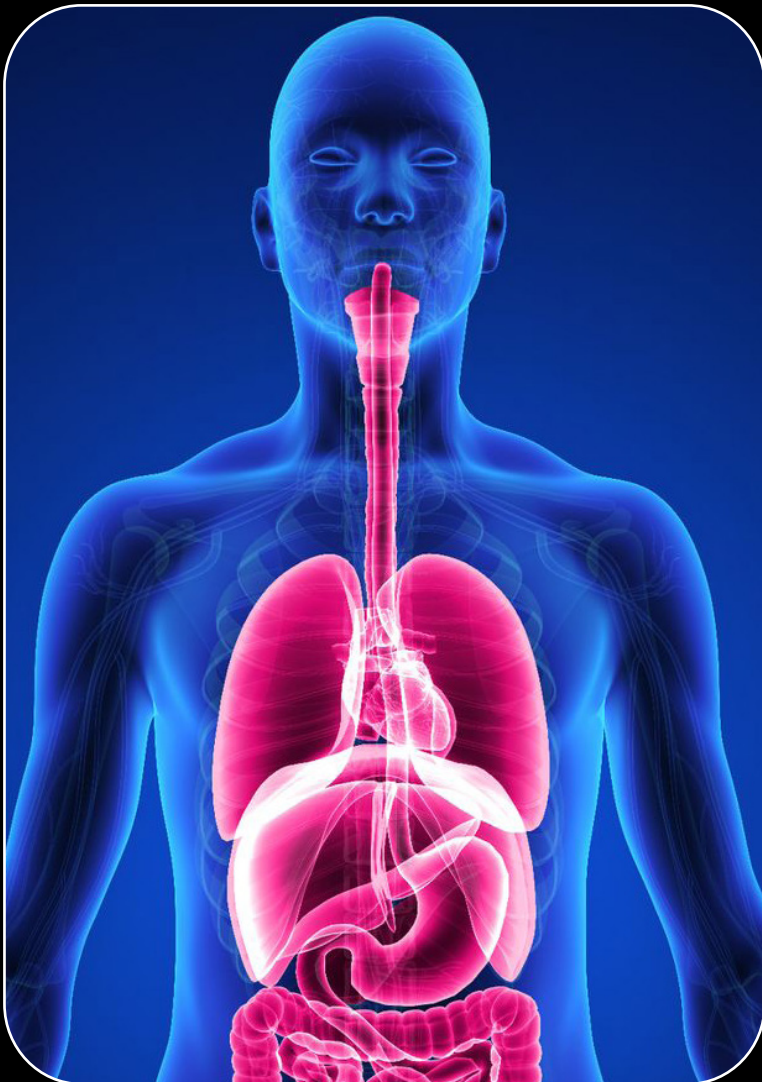
Incineration companies often enter into **long-term (up to 30 years) contracts** with local municipalities that enforce delivery of a set amount of trash (called a put-or-pay contract) with the **threat of a financial penalty** for the town if the requirement is not met. Incineration contracts may:

- lock communities into waste incineration and decades of air pollution and carbon emissions
- disincentivize the transition to recycling, composting, and zero waste programs
- threaten the fiscal stability of communities by incineration industry debt and lawsuits

In spite of **serious environmental and health risks** associated with burning trash, renewable energy subsidies allow states and localities to promote incineration as an “environmentally-sound” way to manage waste.

THE COST TO HUMAN HEALTH

MSW incinerators are **large emitters of toxic air pollutants** that are detrimental to human health. Burning consumer waste emits many toxins such as heavy metals, dioxins, lead, mercury, nitrogen oxides (NOx), and Particulate Matter (PM). People living close to these facilities are exposed through inhalation or through contaminated food and water. These toxins are linked to a variety of problems including **asthma, heart disease, miscarriage, stillbirth, kidney disease, high blood pressure, and lung disease**. Notably, long-term exposure to PM has been shown to increase the risk of death from **Covid-19**.³



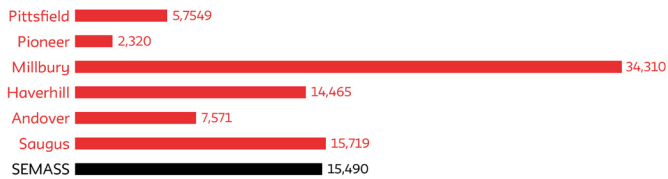
THE COST TO PUBLIC HEALTH IN MASSACHUSETTS

523,000 people live in a three-mile radius of Massachusetts' seven MSW incinerators, and are exposed to constant streams of **toxic air pollution**. Particulate Matter 2.5, lead and mercury are three of the most dangerous pollutants emitted from incinerators.

- SEMASS Resource Recovery Facility is the largest incinerator in the state, burning 2,700 tons of waste per day.⁷ In 2017, it was also the highest emitter of mercury in the state, emitting 12.8 pounds.
- Wheelabrator Millbury was the largest emitter of PM2.5 and lead in 2017, emitting 34,310 pounds of PM2.5 and 170 pounds of lead. Exposure to lead is particularly worrisome for children and can seriously affect mental and physical development.

AIR POLLUTANT EMISSIONS FOR MA INCINERATORS (2017)

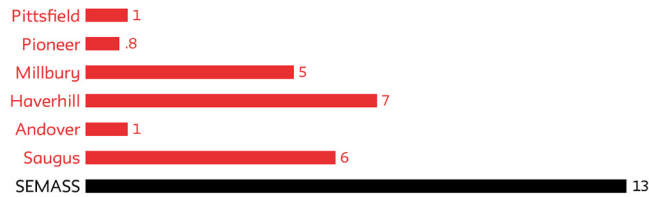
ANNUAL PM 2.5 (LBS)



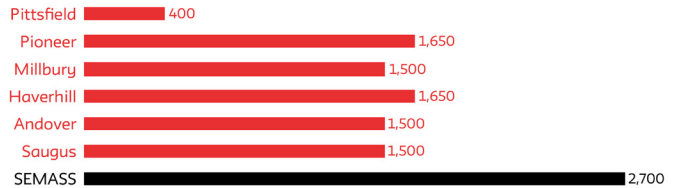
ANNUAL LEAD (LBS)



ANNUAL MERCURY (LBS)



DAILY TONS OF WASTE CAPACITY (LBS)



EJ-Community Non EJ-Community

THE COST TO MASSACHUSETTS' WALLET

The U.S. Energy Information Administration reports that burning trash in MSW incinerators is the most expensive way to make energy.⁸ Incinerators typically have a lifespan of 20-30 years.

- The majority of incinerators in Massachusetts were built in the 1980s, with one being built in 1975 (Wheelabrator Saugus). Aging incinerators pose various safety threats including dangerous fires and other accidents. Maintaining incinerators is also expensive. The cost generally gets passed to cities, towns, and residents.
- In 2016, Covanta's Pittsfield Resource Recovery Facility threatened to close because of high operating costs and declining profitability. Pittsfield lawmakers passed incentives totaling \$562,000, coming from an economic development fund, for the company to stay open for at least another four years.⁹

JOIN THE FIGHT

HELP ELIMINATE INCINERATION TO PROTECT MASSACHUSETTES HEALTH, ENVIRONMENT, AND HARD-EARNED MONEY. ADVOCATE FOR ZERO WASTE SOLUTIONS THAT MINIMIZE MUNICIPAL WASTE STREAMS AND CONSERVE RESOURCES THROUGH RESPONSIBLE PRODUCTION, CONSUMPTION, REUSE AND RECOVERY WITHOUT BURNING:

- End disposal in incinerators and landfills
- Utilize minimum recycled content standards in manufacturing processes
- Invest in infrastructure to recover maximum resources for reuse, recycling and composting
- Ensure community involvement in any state zero waste plan

To learn more, check out GAIA's Zero Waste Master Plan

**Join a Community Group to close MSW incinerators, please contact:
Global Alliance for Incinerator Alternatives (GAIA)**



ENDNOTES

¹ Kevin Budris, “Aging Waste Incinerators Pose a Danger to New Englanders,” (Conservation Law Foundation, December 9, 2019) <https://www.clf.org/blog/aging-incinerators-pose-a-danger/> (accessed November 9, 2020)

² For the purposes of this study, an environmental justice community is defined using thresholds for race, Hispanic origin, and household income derived from the US Census Bureau. To determine the threshold for an EJ community, a review of the statewide average for these socio-demographic characteristics was completed and an EJ community was defined as any census tract where the thresholds for the socio-demographic data was near the state average. In MA, 31.8% of the population are people of color, including Hispanic origin and 23% of households have income below 200% of the federal poverty level. Based on these averages, any census tract in MA (a) where 20% or more of the residents within a three-mile radius of the plant are people of color [all people who are NOT white/non Hispanic] or (b) 25% or more of the households are at or below 200% of the Federal Poverty Level would be considered an EJ community. The demographic indicators for this project came from EJSCREEN. The source of all demographic data in EJSCREEN comes from American Community Survey five-year summary, compiled yearly. For this project, data from the ACS 2013-2017 5-year estimates was gathered and wrangled for analysis which replicates the demographic variables used in EJSCREEN.

³ Zhaozhong Zhu, Kohei Hasegawa, Baoshan Ma, Michimasa Fujiogi, Carlos A. Camargo, Liming Liang, “Association of asthma and its genetic predisposition with the risk of severe COVID-19” (Journal of Allergy and Clinical Immunology, 2020) <https://www.sciencedirect.com/science/article/pii/S009167492030806X>

⁴ EPA, “Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018,” (EPA, 2020): 2-3 <https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf>

⁵ Steven C. Russo et al., Comments of the New York State Department of Environmental Conservation Regarding the Verified Petition of Covanta Energy Corporation, (Albany, New York: New York State Department of Environmental Conservation, 2011)

⁶ DSIRE, Renewable Energy Standard Program Overview: Massachusetts, (DSIRE, July 9, 2018) <https://programs.dsireusa.org/system/program/detail/479> (accessed November 9, 2020)

⁷ Enforcement and Compliance History Online, “Air Pollutant Report,” (EPA, 2017) <https://echo.epa.gov/air-pollutant-report?fid=110000312028>

⁸ U.S. Energy Information Administration, Updated Capital Cost Estimates for Utility Scale Electricity Generation Plants, (Washington, D.C.: U.S. Energy Information Administration, 2016), 9.

⁹ Dick Lindsay, “Covanta Will Continue Operating for at Least 4 More Years,” The Berkshire Eagle, October 12, 2016.

This fact sheet was prepared by The Tishman Environment and Design Center in consultation with GAIA and in collaboration with Moja Robison in November 2020.



GAIA is a worldwide alliance of more than 800 grassroots groups, non-governmental organizations, and individuals in over 90 countries whose ultimate vision is a just, toxic-free world without incineration.
www.no-burn.org



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