

# THE COST OF BURNING TRASH

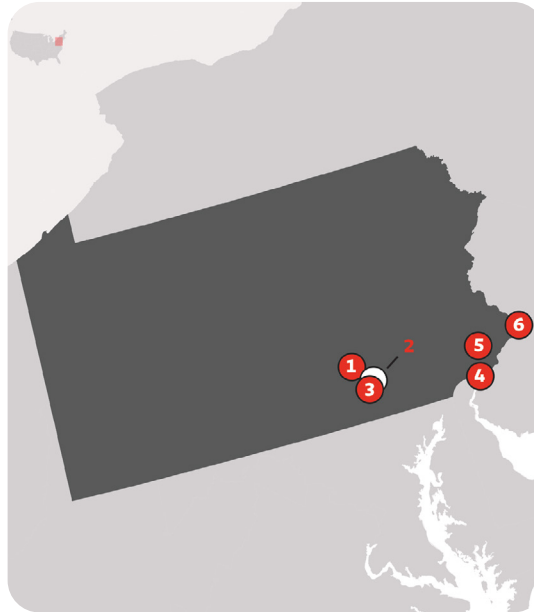
## HUMAN AND ECOLOGICAL IMPACTS OF INCINERATION IN PENNSYLVANIA

Pennsylvania (PA) has six Municipal Solid Waste (MSW) incinerators in the United States. 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 Susquehanna Resource Management Complex**  
(Harrisburg)
- 2 Lancaster County Resource Recovery Facility**  
(Marrietta)
- 3 York County Resource Recovery Center**  
(York)
- 4 Delaware Valley Resource Recovery Facility**  
(Chester)
- 5 Covanta Plymouth Renewable Energy**  
(Conshohocken)
- 6 Wheelabrator Falls**  
(Morrisville)



The map shows Pennsylvania MSW incinerators and their location in environmental justice (EJ) communities (low-income or communities of color disproportionately impacted by environmental burdens and pollution).<sup>1</sup> Incinerators are often located in communities which face cumulative impacts from multiple sources of pollution. **In PA, 5 of the 6 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.<sup>2</sup> 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.<sup>3</sup>

In Pennsylvania, burning municipal solid waste is considered a renewable energy source according to their Renewable Portfolio Standard (RPS).<sup>4</sup> The PA RPS gives incinerators access to renewable energy subsidies funded through taxpayer dollars that contribute to the profitability of this dirty industry. **These PA policies must change.**

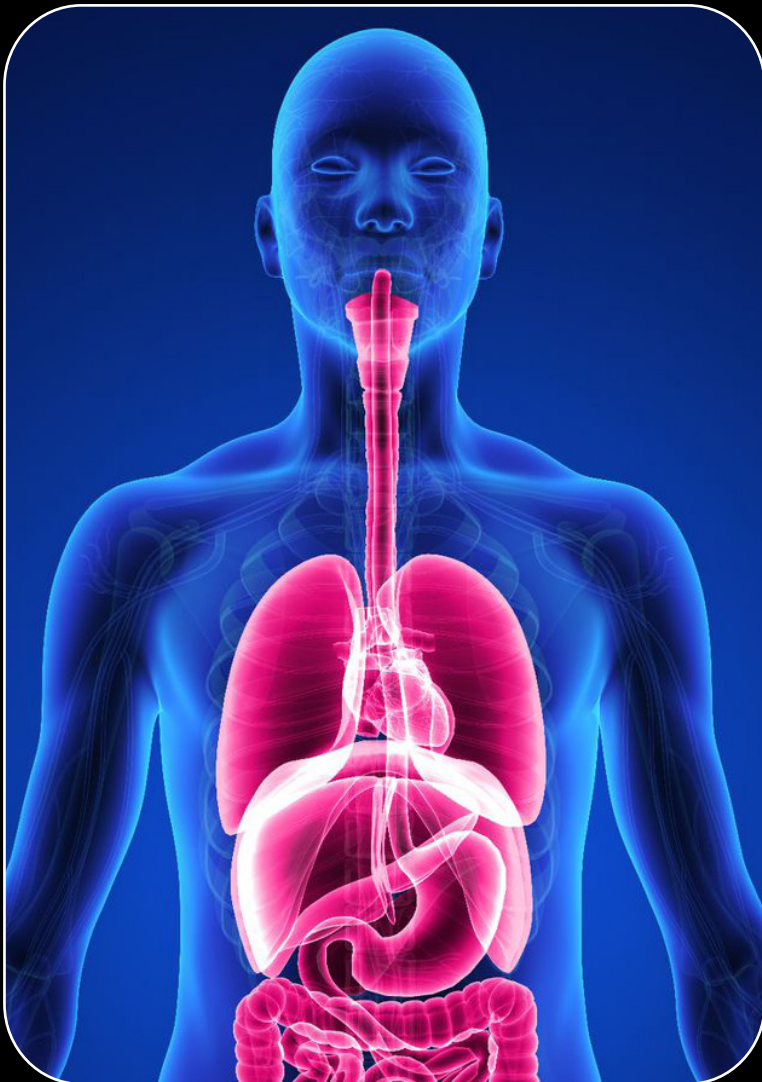
Incineration companies often enter into **long-term (up to 30 years) contracts** with local municipalities that enforce delivery of a set amount of trash (called a put-or-pay contract) with the **threat of a financial penalty** for the town if the requirement is not met. Incineration contracts may:

- 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**.<sup>5</sup>



## THE COST TO PENNSYLVANIANS' HEALTH

310,373 people live within a three-mile radius of Pennsylvania's six incinerators, and are exposed to constant streams of toxic air pollution. Delaware Valley Resource Recovery Facility is the largest incinerator in the state, and one of the largest incinerators in the country, burning 3,500 tons of waste per day.<sup>6</sup> It is located in an EJ community with 54,746 people living within its three mile radius, 44% of whom are low income residents, and 57% of whom are people of color.

- In 2017, emission data was not found for Delaware Valley Resource Recovery Facility, but in 2014 it was the largest emitter of PM2.5 in the country, emitting more than 200,000 pounds of PM2.5.<sup>7</sup>
- In 2017, Wheelabrator Falls was the largest emitter of PM2.5, lead and mercury.<sup>8</sup>
- In 2017, China imposed a ban on importing most residential recyclables. From this ban, about 200 tons of recyclables were sent to Chester City's Delaware Valley Resource Recovery Facility, located outside of Philadelphia and in an EJ community. Nearly four in 10 children in the city have asthma, the rate of ovarian cancer is 64% higher than the rest of Pennsylvania and lung cancer rates are 24% higher, according to state health statistics.<sup>9</sup>

# AIR POLLUTANT EMISSIONS FOR PA INCINERATORS (2017)

## ANNUAL PM 2.5 (LBS)



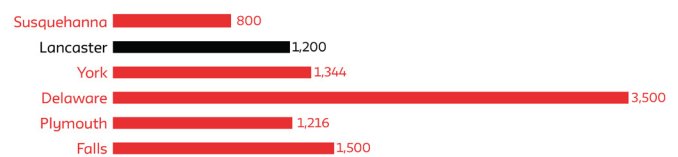
## ANNUAL LEAD (LBS)



## ANNUAL MERCURY (LBS)



## DAILY TONS OF WASTE CAPACITY (LBS)



EJ-Community

Non EJ-Community

## THE COST TO PENNSYLVANIANS' WALLET

In addition to paying more for healthcare due to a higher “pollution burden”, residents in PA may also pay more to have waste burned instead of landfilled. The U.S. Energy Information Administration reports that burning trash in MSW incinerators is the most expensive way to make energy.<sup>10</sup>

- The public debt from building and maintaining incinerators can cause serious fiscal problems for municipalities, as shown in Harrisburg, PA.
- In 2003, due to excessive dioxin emissions, the U.S. EPA threatened to shut down the incinerator.<sup>11</sup> However, the incinerator already held more than \$100 million in debt. Instead of shutting down the facility, then Mayor Stephen Reed, chose to retrofit it using \$130 million in city-backed debt. This debt became a financial nightmare for the city leading to a major budget deficit that caused government layoffs, a 17% increase in property taxes and an attempt at Chapter 9 bankruptcy.<sup>12</sup> In 2018, the state filed a lawsuit against responsible parties, including law firms and private investors, who made millions of dollars in fees from structuring this financial debacle.
- Both incineration and landfilling are more expensive than zero waste solutions such as reducing waste, recycling, and composting.

### JOIN THE FIGHT

**HELP ELIMINATE INCINERATION TO PROTECT PENNSYLVANIANS 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

<sup>1</sup> 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 PA, 26.2% of the population are people of color, including Hispanic origin and 28% of households have income below 200% of the federal poverty level. Based on these averages, any census tract in PA (a) where 30% 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.

<sup>2</sup> 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>

<sup>3</sup> 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).

<sup>4</sup> DSIRE, Renewable Energy Standard Program Overview: Pennsylvania, (DSIRE, July 10, 2018) <https://programs.dsireusa.org/system/program/detail/262> (accessed November 9, 2020)

<sup>5</sup> 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>

<sup>6</sup> Tishman Center, "U.S. Municipal Solid Waste Incinerators: An Industry in Decline," (Tishman Center, 2019): 41 [https://static1.squarespace.com/static/5d14dab43967cc000179f3d2/t/5d5c4bea0d59ad00012d220e/1566329840732/CR\\_GaiaReportFinal\\_05.21.pdf](https://static1.squarespace.com/static/5d14dab43967cc000179f3d2/t/5d5c4bea0d59ad00012d220e/1566329840732/CR_GaiaReportFinal_05.21.pdf)

<sup>7</sup> U.S. Environmental Protection Agency, "Enforcement and Compliance History Online: Detailed Facility Report for Covanta Delaware Valley," Accessed April 17, 2019.

<sup>8</sup> Enforcement and Compliance History Online, "Air Pollutant Report," (EPA, 2017) <https://echo.epa.gov/air-pollutant-report?fid=110001064703> (Accessed September, 2020)

<sup>9</sup> Public Health Management Corporation, "Community Health Database," (PHMC) <https://www.data.publichealthmanagementcorporation.org/> and Oliver Milman, "'Moment of reckoning': US cities burn recyclables after China bans imports," (The Guardian, February 21, 2019) <https://www.theguardian.com/cities/2019/feb/21/philadelphia-covanta-incinerator-recyclables-china-ban-imports>

<sup>9</sup> Public Health Management Corporation, "Community Health Database," (PHMC) <https://www.data.publichealthmanagementcorporation.org/> and Oliver Milman, "'Moment of reckoning': US cities burn recyclables after China bans imports," (The Guardian, February 21, 2019) <https://www.theguardian.com/cities/2019/feb/21/philadelphia-covanta-incinerator-recyclables-china-ban-imports>

<sup>10</sup> 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.

<sup>11</sup> Lambert, Lisa. "Special Report: The Incinerator That May Burn Muni Investors." Reuters, May 12, 2010. <https://www.reuters.com/article/us-muni-investors/special-report-the-incinerator-that-may-burn-muni-investors-idUSTRE64B2PM20100512?ty=pe=domesticNews>

<sup>12</sup> Lawrence Blinda, "Worst Municipal Finance Disaster: Commonwealth Files Lawsuit Against Actors in HBG Incinerator Debacle," The Burg, May 21, 2018.

**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](http://www.no-burn.org)



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