

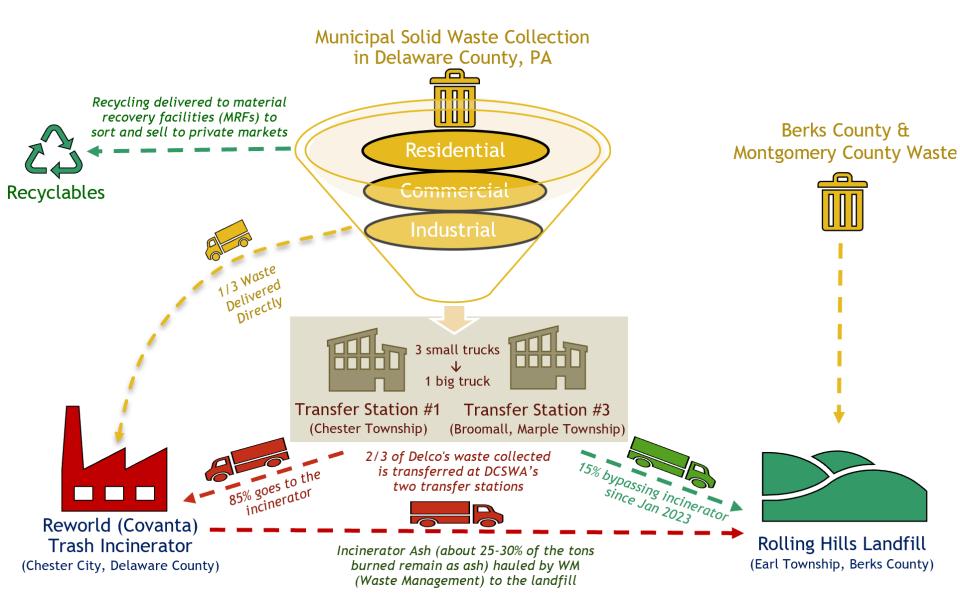
www.EnergyJustice.net



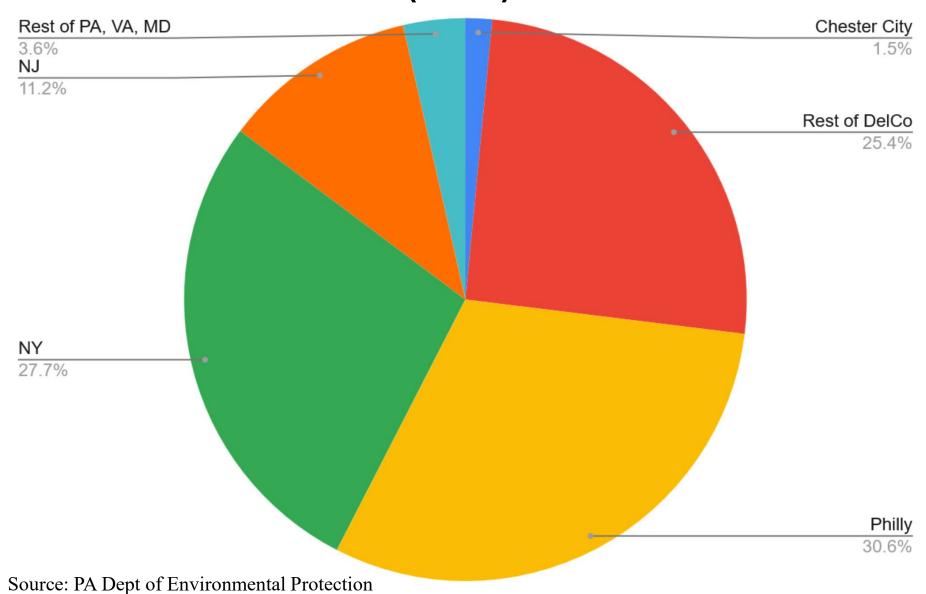
Delco Environmental Justice

www.DelcoEJ.org

Philly Area's Burn Problem SASKATCHEWAN Edmonto AND LAB Calgary ONTARIO QUEBEC Winnipeg Vanc uver Seattle NORTH DAKOTA WASHINGTON Montrea SOUTH DAKOTA CONSIN MHIGAN OREGON IDAHO WYOMING Chicago **NEBRASKA** ILLINOIS OHIO **New York United States** NEVADA UTAH COLORADO San Francisco MISSOURI CALIFORNIA oLas Vegas NORTH OKLAHOMA CAROLINA Los Angeles ARKANSAS ARIZONA **NEW MEXICO** MISSISSIPPI San Diego Dallas CAROLINA ALABAMA GEORGIA TEXAS LOUISIANA Philad Phila San Antonio o Houston ∘ Lahaina Monterrey Gulf of HAWAII Kailua-Kona www.eimap.org



Waste Burned at Reworld Incinerator in Chester (2024)



http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/WM/PBI/Solid Waste Disposal Information

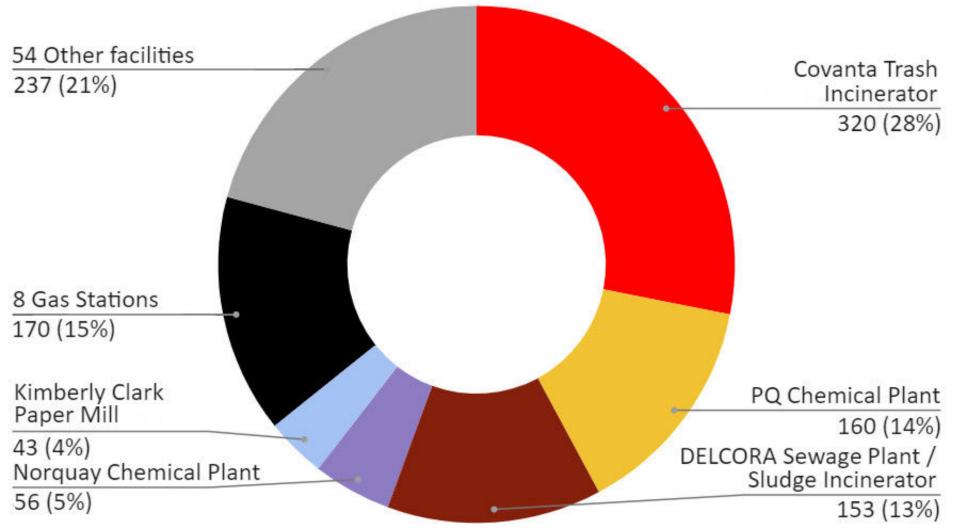




Largest waste incinerator in the U.S.

St	City	Facility Name	Units	Tons/day
PA	Chester	Reworld Delaware Valley	6	3,510
FL	St. Petersburg	Pinellas County Resource Recovery Facility	3	3,150
VA	Lorton	Reworld Fairfax	4	3,000
FL	West Palm Beach	Palm Beach Renewable Energy Facility 2	3	3,000
HI	Honolulu	Honolulu Resource Recovery Venture / H-POWER	3	3,000
NY	Westbury	Hempstead Resource Recovery Facility	3	2,850
NJ	Newark	Essex County Resource Recovery Facility	3	2,800
MA	West Wareham	SEMASS Resource Recovery Facility	3	2,700
CT	Bridgeport	WIN Waste Bridgeport	3	2,250
FL	Ft. Lauderdale	Wheelabrator South Broward (FCC Environmental)	3	2,250
MD	Baltimore	WIN Waste Baltimore / BRESCO	3	2,250
NY	Niagara Falls	Reworld Niagara	2	2,250
NY	Peekskill	WIN Waste Westchester	3	2,250

Environmental Violations at Chester City Facilities (June 2005 – August 2021)



Trash Incineration & Environmental Racism



Trash Incineration & Environmental Racism

- 63% of the 62 commercial-scale trash incinerators still operating in the U.S. as of August 2025 sit in majority white communities, but...
- The largest incinerators are in more urban communities, causing the whole industry to be disproportionately impacting people of color
- 14 of 20 largest incinerators in BIPOC communities
- Black people most disproportionately impacted
- Trash incinerators in BIPOC communities are surrounded by 2.5 times as many people and are twice as large as those in white communities

www.energyjustice.net/incineration/ej

Demographics around Covanta & **DCSWA Rolling Hills Landfill**

	People living within 2.5 miles		
Facility	Population	Household Income	Demographics
DCSWA's Rolling Hills Landfill	2,283	\$73K	96.8% White
Covanta Delaware Valley incinerator	23,000	\$30K	63.8% Black

Census data from JusticeMap.org



← Covanta Delaware Valley trash incinerator

DCSWA Rolling Hills Landfill →



Covanta (now "Reworld") is a Top Air Polluter

Their trash incinerator in Chester is the:

#1 industrial air polluter in Chester City, in Delaware County, and in the entire 7county region surrounding Philadelphia.

All five trash incinerators in this region are among the region's top seven industrial air polluters.



Reworld Delaware Valley's Air Emissions								
Pollutant (in pounds except CO2e)	2022 Emissions*	Rank in DelCo	Health Effects					
Global Warming Pollution (in tons of CO ₂ equivalents)	914,738	4	Extreme weather, disease, crop damage, species extinction					
Nitrogen Oxides	2,320,920	1	Asthma attacks, chronic respiratory disease & stroke					
Carbon Monoxide	673,400	1	Headaches, dizziness; increases lifetime risk of heart disease					
Sulfur Dioxide	392,820	1	triggers asthma attacks; chronic respiratory and heart diseases; stroke					
Particulate Matter	126,080	4	heart attacks, stroke, irregular heartbeat, aggravated asthma, decreased lung function, difficulty breathing					
Hydrochloric Acid	37,740	1	irritates eyes, skin, and nose, damages lungs					
Fine Particulate Matter (PM2.5)	15,140	5	same as above, but worse, gets deep into lungs and into blood stream					
Volatile Organic Compounds	13,700	15	eye, nose and throat irritation, headaches, loss of coordination and nausea, liver, kidney and central nervous system damage, cancer					
Mercury	51	1	damage to nervous, digestive, & immune systems, lowers IQ					
Nickel	20	3	allergy, cardiovascular and kidney diseases, lung fibrosis, lung and nasal cancer					

Lead

5 **Cadmium** kidney disease; lung cancer lung, skin, bladder, and liver cancers; irritation of skin and 4 Arsenic mucous membranes; affects brain and nervous system 4 **Chromium (VI)** lung cancer, shortness of breath, coughing, and wheezing All is 2022 data except cadmium, arsenic, and chromium (VI), which is 2016-2019 average for lack of 2022 data. Source: PA Department of

Environmental Protection Air Emissions Report: http://cedatareporting.pa.gov/reports/powerbi/Public/DEP/AQ/PBI/Air Emissions Report

17

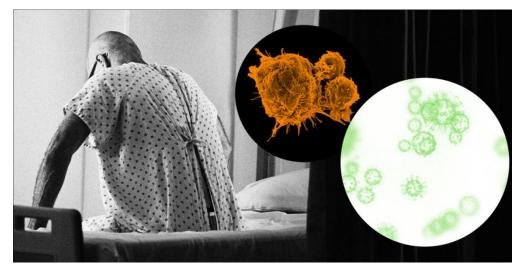
likelihood of antisocial behavior

damages nervous system and kidneys, lowers IQ, increases

Health effects

People living near incinerators have an increased risk of...

- All types of cancer, including:
 - Stomach
 - Colorectal
 - Liver
 - Renal
 - Lung & pleural
 - Gallbladder
 - Bladder
 - Non-Hodgkin lymphoma
 - Leukemia
 - Soft-tissue sarcoma
- Respiratory diseases & symptoms
- Cardiovascular diseases
- Urinary diseases



Covanta: "incinerators have been studied comprehensively for health risk"

Fact: Not much in the U.S. and not comprehensively at all.

Source: www.energyjustice.net/incineration/healthstudies.pdf

Covanta Lacks Basic Pollution Controls

In March 2009, when an EPA inspector (Ms. Horgan) asked Covanta's Gene Bonner why they don't have the pollution controls that their other plants have, Covanta responded that "it costs a lot of money" and would create "operational issues."

Ms. Horgan asked if there is any control equipment that would be practical to reduce emissions. Mr. Bonner stated that practical is a matter of money to business people. He stated that Covanta doesn't have a big issue for dioxins or mercury so a carbon system is not needed. Ms. Horgan asked about additional NO_X control. Ms. Horgan mentioned that NO_X emissions were 1119 tons in 2003 and 1257 tons in 2005. Ms. Horgan asked if there was a system to bring down these NO_X emissions. Mr. Bonner stated that putting in a urea system would; but, that it costs a lot of money and also introduces additional operational issues. He stated that the more equipment that is added, the more potential for operational issues at some time. He said that the NO_X emissions could be brought down; but, the equipment is not easily operated.

Covanta Lacks Basic Pollution Controls

Covanta's incinerator in Chester uses the fewest pollution control devices of any incinerator in Pennsylvania and the fewest of any in their fleet of 32 remaining incinerators.

LACKING:

- Selective Catalytic Reduction (SCR) or Selective Non-Catalytic Reduction (SNCR) to reduce the nitrogen oxides (NOx) that trigger asthma attacks.
 - SNCR recently installed, cutting NOx from 128 ppm to ~90 ppm; SCR would be 30-40 ppm
- Carbon injection to remove additional toxic metals and dioxins.

HAS:

- **Spray Dryer Absorber (scrubber)** injects lime to reduce acid gases, heavy metals and organic pollutants
- Fabric Filter (baghouse) captures particulate matter (soot)

Covanta's 2023 SNCR presentation:

19 slides about NOx and not a single mention of asthma...



The Wheelabrator Baltimore trash incinerator is the city's #1 source Nitrogen of nitrogen oxide air pollution which triggers asthma attacks. Oxide (NO_x) Closing the incinerator is equal to removing half the cars or half POLLUTION the trucks from Baltimore's roads. from Trash Incineration 205 parts per million (ppm) 200 Wheelabrator Baltimore trash incinerator's existing permit limit 170 ppm New state regulation originally considered **166 ppm** Wheelabrator's average in recent years 150 150 ppm New state regulation (final) PPM (parts per million) refers to the allowable concentration of 100 NOx coming out of the incinerator smokestack. **45 ppm** 50 Permit limit for new incinerators Limit sought by Oct 2017 Baltimore City Council resolution (ignored by state!) · Limit required by Baltimore Clean Air Act · Limit met by new incinerator in West Palm Limit set by MD in two permits issued for proposed incinerators that were defeated since 2014 (Energy Answers in Baltimore and Wheelabrator in Frederick)

In Chester...

205 ppm – old federal limit

180 ppm – old permit limit

116 ppm – avg before SNCR

110 ppm – new limit

~90 ppm – new average

45 ppm – modern limit (requires SCR)



The Most Challenging Places to Live with Asthma

Philadelphia Metro Area ranked...

#4 in 2018

#4 in 2019

#7 in 2021

#9 in 2022

#8 in 2023

#5 in 2024

1. Allentown, PA

Map of the Top 20 Most Challenging Places to Live with Asthma in 2024

2. Rochester, NY

3. Detroit, MI

4. Springfield, MA

5. Philadelphia, PA

6. Cleveland, OH

7. Lakeland, FL

8. Baltimore, MD

9. Charleston, SC

10. Providence, RI



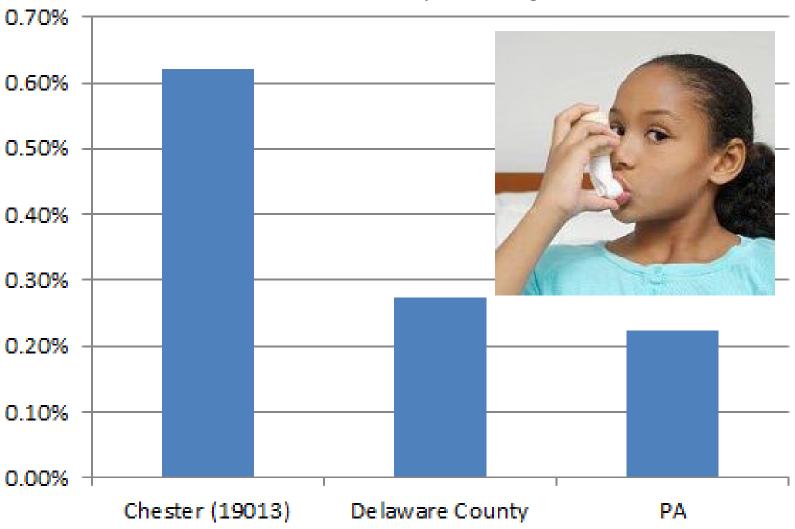


aaa Asthma and Allergy Foundation of America

www.aafa.org/asthma-capitals/

Childhood asthma hospitalization 3x PA rate

Data for those under 18 years of age, for 2010



Source: Analysis based on 2010 Census data and asthma data from The Asthma Program, PA Department of Health.

Data provided by Pennsylvania Health Care Cost Containment Council (PHC4).

Is incineration a problem in general?

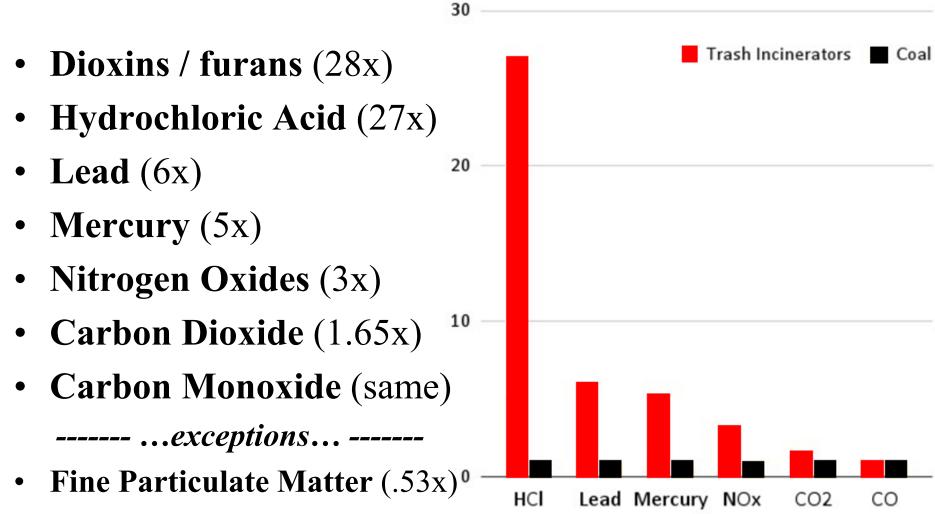


<u>www.EnergyJustice.net/incineration/</u> ← find a ton more info here!

Incineration Worse than Coal

Sulfur Dioxide (0.36x)

Number of times trash incineration is more polluting than coal



www.energyjustice.net/incineration/worsethancoal

Environmental Compliance

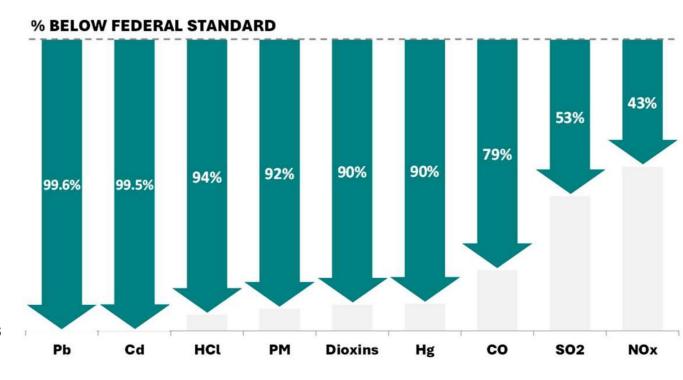
up to

99.6% below

Federal emissions standards, based on annual averages**

100% compliant

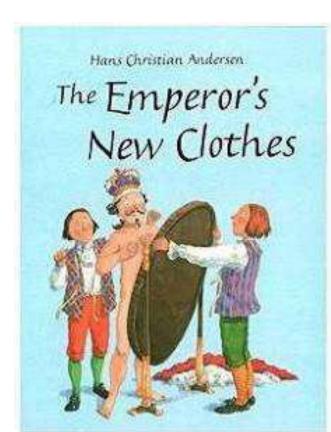
with Continuous Emissions Monitoring (CEMS) standards



Covanta: "We monitor continuously for all of our CEM parameters..."

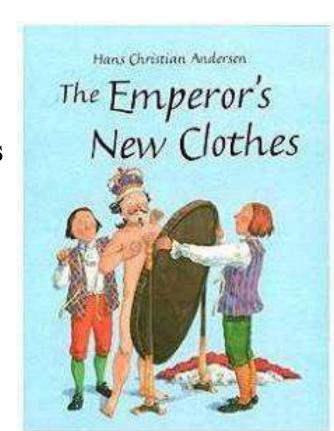
The Smokestack Story

- Continuous Emissions Monitors (CEMs) tell all
- Rigorous enforcement by the state
- Emissions limits = health & safety



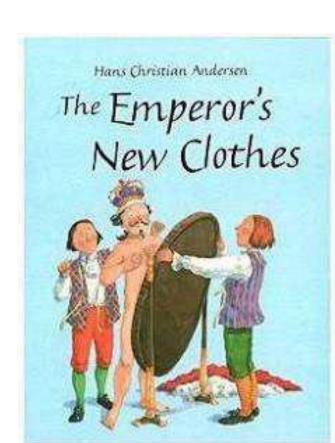
The Smokestack Story

- 1. Covanta not always within permit limits. Fines not enough.
- 2. Cannot meet modern limits, at least for NOx.
 - Emissions limits are stricter for new facilities and for those in other countries.
 - EPA is supposed to update standards every 5 years and hasn't done so for 16 years now.
- 3. Permit limits are not based on health and safety, but are technology-based.

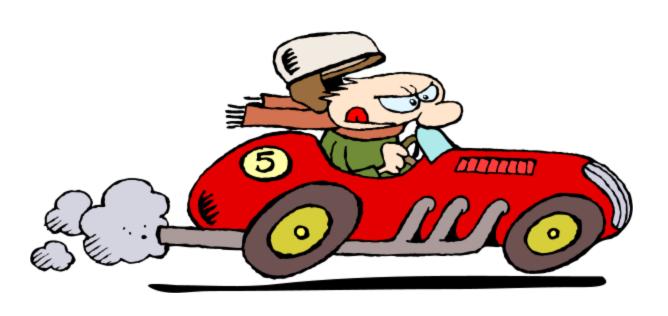


The Smokestack Story

- 4. Permit limits are concentration-based. Bigger means they can be dirtier.
- 5. Covanta has rigged stack tests AND continuous monitoring.
- 6. No safe dose of lead, mercury, dioxins, radiation, fine particulate matter, etc.
- 7. Only 3 pollutants monitored continuously. Emissions underestimated when tested once a year by their own contractor.



Continuous Emissions Monitors





www.ejnet.org/toxics/cems

Continuous Emissions Monitors

- Only generally used for 3 pollutants: sulfur oxides (SOx), nitrogen oxides (NOx) and carbon monoxide (CO) plus opacity, oxygen and temperature
- Hydrochloric acid emissions 62% higher

Particulate Matter (PM)

- Actual dioxin emissions 32-52; 460-1,290 times higher
- Technology now exists to continuously monitor:

```
Ammonia (NH<sub>4</sub>)
                                                              Metals:
                                                                    Antimony (Sb)
Carbon Dioxide (CO<sub>2</sub>)
                                                                    Arsenic (As)
                                                                    Barium (Ba)
Hydrogen Sulfide (H<sub>2</sub>S)
                                                                    Cadmium (Cd)
Acid Gases:
                                                                    Chromium (Cr)
      Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>)
                                                                    Lead (Pb)
      Hydrofluoric Acid (HF)
                                                                    Manganese (Mn)
      Hydrochloric Acid (HCI)
                                                                    Mercury (Hg)
                                                                    Silver (Ag)
Products of Incomplete Combustion (PICs):
                                                                    Nickel (Ni)
      Dioxins & Furans
                                                                    Zinc (Zn)
      Polycyclic Aromatic Hydrocarbons (PAHs)
                                                                    ...and more
      Volatile Organic Compounds (VOCs)
```

www.ejnet.org/toxics/cems

Covanta: we provide "landfill-free disposal"

Covanta's toxic ash being dumped at the Delaware County Solid Waste Authority's Rolling Hills Landfill in Berks County:



Landfilling vs. Incineration





...and Ash Landfilling

How to Compare?

- Human health impacts
 - Nitrogen Oxide emissions (asthma)
 - Particulate emissions
 - Toxic and Cancer-causing emissions
- Eutrophication
- Acidification (acid rain...)
- Ecosystem toxicity
- Ozone depletion
- Smog formation
- Global warming

Should also look at...

- Cost
- Jobs
- Population impacted
- Environmental justice



Delaware County's Path Toward Zero Waste



NPS/Michael Cuff

Delaware County, Pennsylvania Municipal Waste Management Plan 2023-2033 Non-Substantial Revision

Office of Sustainability March 2024





Delaware County, PA is home to the nation's largest waste incinerator, in the City of Chester. It is the largest industrial air polluter in the county, and the county is now moving away from incineration.

The county's Zero Waste Plan includes a comprehensive life cycle analysis (LCA) of incineration vs. landfilling vs. zero waste.

Find the draft plan <u>here</u> and the LCA summary and full writeup <u>here</u>.

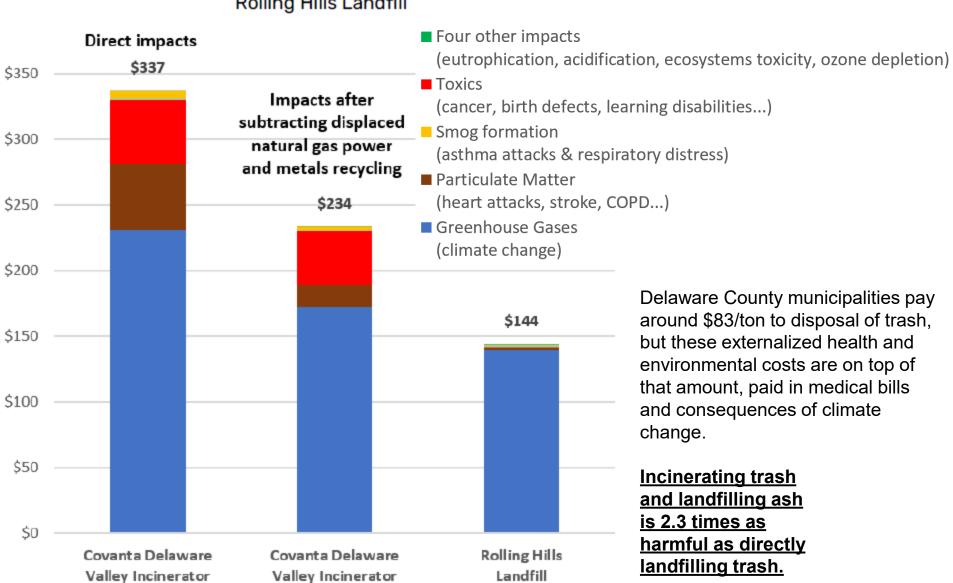
Results on the next few slides.

Incineration vs. Landfilling

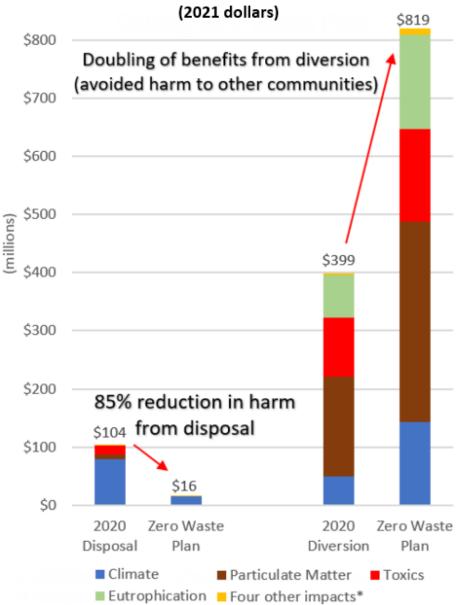
Health & Environmental Impacts per Ton of Waste Disposed at Covanta Delaware Valley Incinerator vs. Rolling Hills Landfill

(offsets)

(no offsets)



Annual Health and Environmental Impacts of Implementing Delaware County Zero Waste Plan



While the last chart looked at externalized health and environmental costs per ton, this looks at the entire impact of Delaware County's waste system (all tons in a year), showing \$104 million dollars of health and environmental costs per year.

Adopting the Zero Waste Plan (ending incineration and reducing waste) cuts those harms by 85%, while the benefits (avoided harms) that already happen from current recycling efforts (about \$400 million a year) would be doubled.

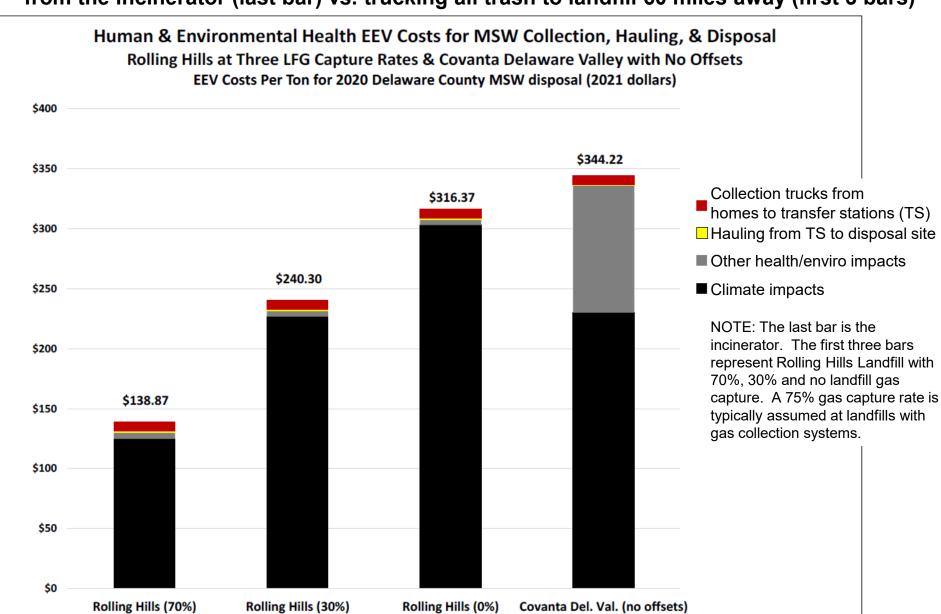
Examples of these avoided harms are not needing to log or mine new raw materials because we're now consuming less, reusing/repairing, recycling and composting.

* Acidification, ecosystems toxicity, ozone depletion, and smog formation

85% reduction of disposal impacts from a combination of diverting materials from disposal, and switching from incineration (and landfilling ash) to direct use of landfilling.

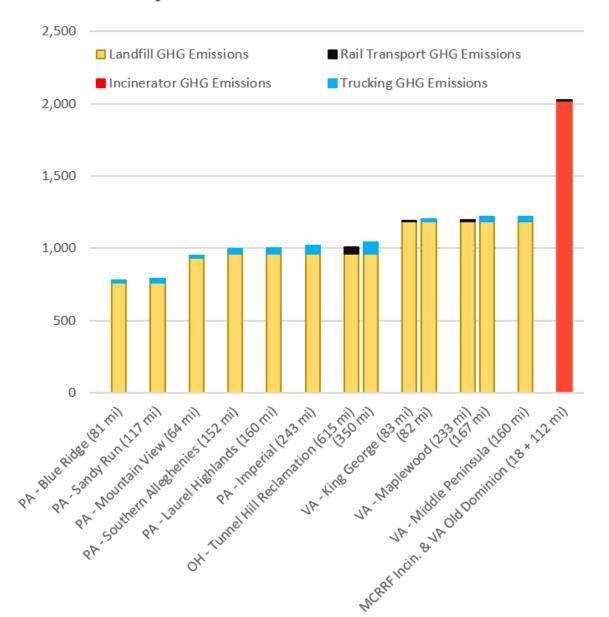
Transportation Impacts Insignificant

Yellow lines show difference between hauling from two transfer stations 3 and 13 miles from the incinerator (last bar) vs. trucking all trash to landfill 60 miles away (first 3 bars)



Transportation Impacts Insignificant

20-year CO₂e (lbs/ton of waste disposed)



Transportation climate impacts (blue/black) are minor compared to incineration (red) or landfilling (vellow), and no realistic transportation distance can justify incinerating in-county over hauling waste to distant landfills.

Source: Life Cycle Analysis (LCA) from 2021 report, "Beyond Incineration: Best Waste Management Strategies for Montgomery County, Maryland" www.energyjustice.net/md/moco

Beyond Incineration:

Best Waste Management Strategies for Montgomery County, Maryland

Prioritizing:

- Cost-effectiveness
- Human health & safety Climate protection
- Continuous waste reduction

Prepared for: County Executive Marc Elrich

By: Zero Waste Montgomery County

Underwritten by: Sugarloaf Citizens' Association www.sugarloafcitizens.org

Principal Author: Mike Ewall, Esq. **Energy Justice Network** 215-436-9511

Montgomery

County

mike@energyjustice.net

With technical analysis and contributions from: Deborah Cohn, Esq. Kelly Doordan, M.S.E.S., J.D. Susan Eisendrath, M.P.H. Lauren Greenberger, M.H.Sc. Mike Krauss Joe Libertelli, J.D. Amy Maron, M.P.P Jeffrey Morris, Ph.D.

Scott Rockafellow, M.B.A. Neil Seldman, Ph.D.

Montgomery County resident Rail-haul Consultant Montgomery County resident Montgomery County resident Sound Resource Management Group

March 2021

www.energyjustice.net/md/beyond.pdf

◎(•)(\$)(∈)

Philly's Waste Contracts

Summer 2019:

- Covanta $-1/3^{rd}$ of Philly's trash
- Waste Management 2/3rds of Philly's trash

Both contracts are 4 years plus three 1-year renewal options

Approximately the same price.

Contract expires 6/30/2026



City of Philadelphia

	BILL NO Introduced, 2025	
Councilr	member	_
	Referred to the Committee on	
	AN ORDINANCE	

Amending Title 17 of The Philadelphia Code, entitled "Contracts and Procurement," by adding language to bar the City from contracting with companies that cause the city's municipal solid waste or recyclables to be incinerated; all under certain terms and conditions.

Waste Contracting for Clean Air Act

THE COUNCIL OF THE CITY OF PHILADELPHIA HEREBY ORDAINS:

SECTION 1. Title 17 of The Philadelphia Code is hereby amended to read as follows:

TITLE 17. CONTRACTS AND PROCUREMENT.

* * *

www.PhillyZeroWaste.org/sign

Sign-on to End Philly Waste Incineration

July __, 2025

Re: Philadelphia Waste Contracts

Dear Mayor Parker:

Philadelphia's Sanitation Department is currently considering new contracts for where our city's trash will go for the next seven years. We write to urge you to instruct the Sanitation Department NOT to award any contracts for burning our trash.

Burning trash and landfilling toxic ash is the most expensive and polluting way to manage waste or to make energy. It's dirtier than coal power plants and is more polluting than landfilling our waste directly without burning it first. For every 100 tons burned, 30 tons end up as toxic ash that still is dumped in landfills, making landfills smaller, but more toxic. The other 70 tons come out of incinerator smokestacks, contributing to air pollution and related health problems.

Since 2019, under our current contracts with Covanta and Waste Management, 39% of the city's trash has been sent to incinerators; the rest to landfills. In 2024, it was just under 37%. All three Pennsylvania incinerators we use – in Delaware, Montgomery, and Bucks Counties – are among the top five industrial air polluters in the five-county Philadelphia area. The top air polluter is the one in Chester, which accepts the lion's share of the trash our city burns.

We are concerned about this incineration contract for several reasons:

Health: the three incinerators surrounding Philadelphia are among the region's four largest emitters of nitrogen oxide (NOx) pollution which triggers asthma attacks. Asthma is a leading cause of missed school and work days, and is a serious problem for our city.

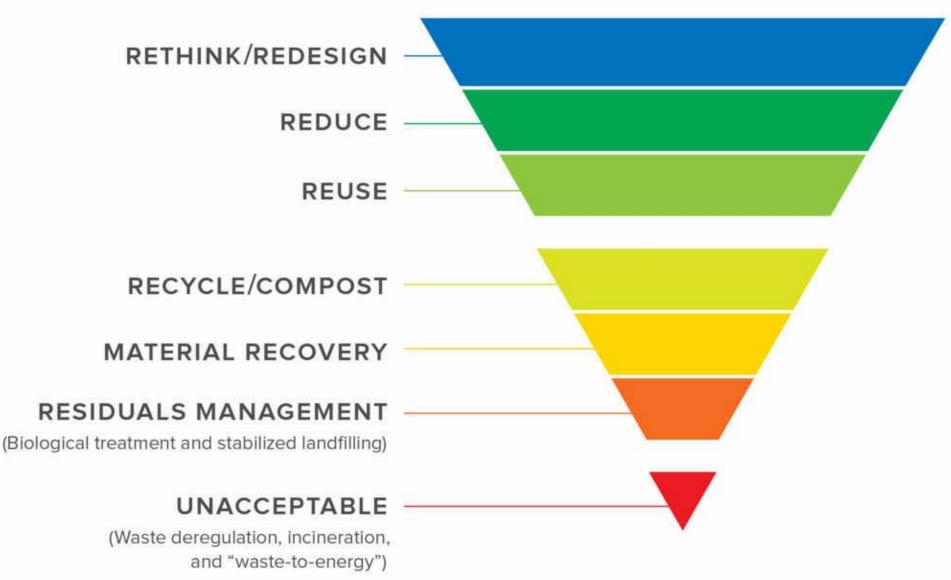
Signers so far...

Mike Ewall, Esq. Executive Director, Energy Justice Network

B. Preston Lyles, Sr., M.S. Higher Ed. Leadership, M.Div. Organizer, Delco Environmental Justice

215 People's Alliance
Beyond Plastics
ECHO Systems
McKean County Green Party
Move Past Plastic
Philly Thrive
Physicians for Social Responsibility PA
Save our Susquehanna
Sierra Club Southeastern PA Group
Toxic Prisons Campaign of the Human Rights Coalition
Zero Waste Strategies LLC
Zero Waste USA

THE ZERO WASTE HIERARCHY



Getting to Zero Waste

- Unit-based pricing a.k.a. "Pay/Save as You Throw"
 - reduces waste by 44% on average right away; most cost-effective strategy*
- Curbside composting collection
- Provide right-sized bins
- Deconstruction



Deconstruction Crew, <u>Second Chance</u>, Baltimore, MD. Photo Credit: C. Seldman



San Francisco's bin system: 64-gal blue recycling bin 32-gal green compost bin 16-gal black trash bin

^{*} For good resources on unit-based pricing, see resources cited on pages 16-17 in the <u>Beyond Incineration report</u>. On deconstruction, see <u>Reclamation Administration</u>.

What can we do?

- Let Delaware County Council know...
 - Dial back use of the incinerator to zero as rapidly as possible
 - Push DCSWA to **save Rolling Hills Landfill space** for unburned Delco waste; stop taking incinerator ash and non-Delco waste!
 - Fund the Delco Solid Waste Authority and municipalities to implement the <u>Delco Zero Waste Plan</u>
- Support Delco municipalities to implement pieces of the Zero Waste Plan
- Support our work to stop Philadelphia's use of incineration
- Get us invited to educate others on the health and environmental harms of ongoing use of incineration

Learn more here...

www.PhillyZeroWaste.org/ContractFAQ.pdf

www.PhillyZeroWaste.org

www.DelcoEJ.org

www.EnergyJustice.net/incineration



www.EnergyJustice.net



Delco Environmental Justice

www.DelcoEJ.org

Mike Ewall, Esq. Founder & Director 215-436-9511 mike@energyjustice.net

B. P. Lyles
Organizer
bp@delcoej.org