

How polluting is the H-POWER trash incinerator?

H-POWER is a city/county-owned trash incinerator operated by Covanta, the nation’s largest trash incineration corporation. They’re the #1 source of mercury and hydrochloric acid pollution on the island, accounting for 37% and 77% of the total air emissions from industrial sources on the island, respectively.

The latest available data from EPA’s National Emissions Inventory shows that the H-POWER trash incinerator released:

Pollutant (in pounds except CO ₂ e)	2014	2017	Health Effects
Global Warming Pollution (in tons of CO ₂ equivalents)	666,314	686,798	Extreme weather, disease, crop damage, species extinction
Nitrogen Oxides	1,620,222	1,723,110	triggers asthma attacks, chronic respiratory disease and stroke
Particulate Matter	207,877	204,275	heart attacks, stroke, irregular heartbeat, aggravated asthma, decreased lung function, difficulty breathing
Fine Particulate Matter	182,757	177,439	same as above, but worse, get deep into lungs and into blood stream
Hydrochloric Acid	49,460	37,400	irritates eyes, skin, and nose, damages lungs
Sulfur Dioxide	16,400	4,688	triggers asthma attacks; chronic respiratory and heart diseases; stroke
Carbon Monoxide	103,488	121,425	headaches and dizziness; increases lifetime risk of heart disease
Volatile Organic Compounds	8,400	3,863	eye, nose and throat irritation, headaches, loss of coordination and nausea, liver, kidney and central nervous system damage, cancer
Ammonia	3,452	3,482	nose and throat irritation
Formaldehyde	10	15	eyes, skin, and nose irritation; increases lifetime risk of cancer
Lead	30	32	damages nervous system and kidneys, lowers IQ, increases likelihood of antisocial behavior
Mercury	11	15	damage to nervous, digestive, and immune systems, lowers IQ
Hydrofluoric Acid	154	143	lung, liver, and kidney damage, skeletal fluorosis (brittle bones)
Chromium (VI)	0.3	0.5	lung cancer, shortness of breath, coughing, and wheezing
Cadmium	6	4.1	kidney disease; lung cancer
Arsenic	0.6	1.4	lung, skin, bladder, and liver cancers; irritation of the skin and mucous membranes and effects in the brain and nervous system

To put the smaller numbers in perspective, mercury is one of the toxic pollutants for which there is no known safe level of exposure. Lead and dioxins also have no “safe” level, and dioxins are the most toxic chemicals known to science, and incinerators are a major source (but good data is lacking). The incinerator reported releasing 15 lbs of mercury into the air in 2017, not counting that which gets into the air and water via the ash. A highly cited Minnesota study found that if approximately one gram of mercury (the amount in a single fever thermometer) is deposited to a 20-acre lake each year from the atmosphere, this small amount, over time, can contaminate the fish in that lake to the point where they should not be eaten.¹⁷ 15 pounds of mercury equals 6,804 grams. That means the incinerator, in a typical year, is releasing enough mercury sufficient to keep thousands of 20-acre lakes so contaminated that the fish are not safe to eat.

But what about buildings and mobile sources? Aren’t they a bigger source of pollution to worry about?

Yes, for some pollutants, the fossil fuels burned to heat buildings or move vehicles are the largest share of pollution compared to industry. However, the incinerator is the largest polluter of all industrial sources, and is a big share of the total even when compared to everything (vehicles, buildings, etc.). While mobile sources and buildings are typically a larger share of emissions attributable to oil and gas burning (nitrogen oxides, particulate matter, carbon dioxide, carbon monoxide, and VOCs), incineration accounts for the lion’s share of acid gases and toxic emissions of heavy metals, dioxins and other toxic chemicals.

¹⁷ “One Gram of Mercury Can Contaminate a Twenty Acre Lake: An Clarification of This Commonly Cited Statistic,” Summary Prepared by Interstate Mercury Education and Reduction Clearinghouse, 2004. www.newmoa.org/prevention/mercury/mercurylake.pdf

Air Pollution from O'ahu Power Plants

[Latest data from EPA's National Emissions Inventory (2017) and eGRID (2018) database; generation data from Energy Information Administration.]

Kahe, Kalaeloa and Waiau are all oil-burning power plants, AES is a coal-burning power plant, and HPOWER is a trash incinerator.

