

Incinerating trash is not an effective way to protect the climate or reduce waste

February 27 2018, by Ana Baptista



Rally opposing a proposed waste-to-energy plant in Baltimore, Maryland, Dec. 18, 2013. Credit: United Workers, CC BY

U.S. cities have been burning municipal solid waste [since the 1880s](#). For the first century, it was a way to get rid of trash. Today advocates have

rebranded it as an environmentally friendly energy source.

Most incinerators operating today use the heat from burning trash to produce steam that can generate electricity. These systems are sometimes referred to as "[waste-to-energy](#)" plants.

Communities and environmental groups have long [opposed the siting of these facilities](#), arguing that they are serious polluters and undermine recycling. Now the industry is promoting a new process called co-incineration or co-firing. Operators burn waste alongside traditional fossil fuels like coal in facilities such as cement kilns, coal-fired power plants and industrial boilers.

I study environmental justice and zero-waste solutions and contributed to a [recent report](#) about the health and environmental impacts of co-incineration. Since that time, the Trump administration's [lenient approach](#) to enforcing environmental laws against polluters – [including incinerators](#) – has deepened my concern. I've come to the conclusion that burning waste is an unjust and unsustainable strategy, and new attempts to package incineration as [renewable energy](#) are misguided.

Incineration industry capitalizes on renewable energy

Currently there are [86 incinerators across 25 states](#) burning about [29 million tons of garbage annually](#) – about 12 percent of the total U.S. waste stream. They produced [about 0.4 percent of total U.S. electricity generation in 2015](#) – a minuscule share.

Classifying incineration as renewable energy creates new revenue streams for the industry because operators can take advantage of programs designed to promote clean power. More importantly, it gives them environmental credibility.

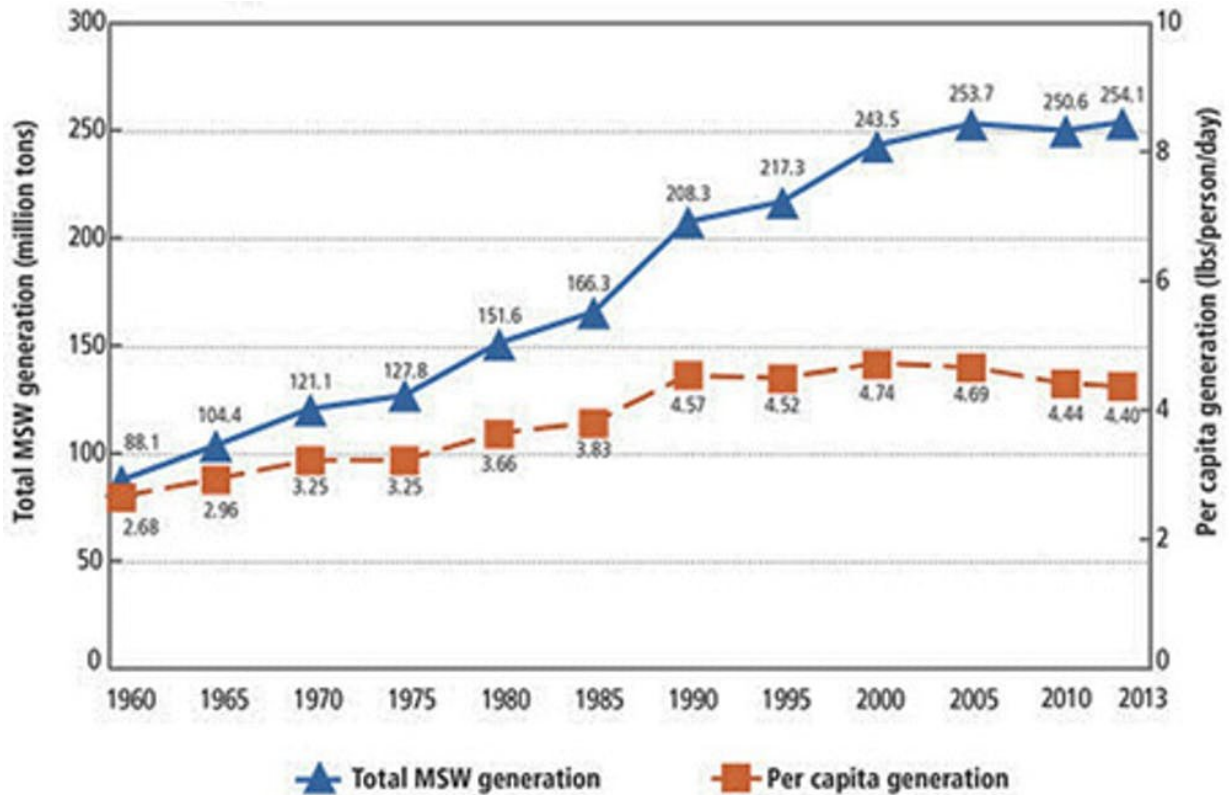
In [23 states and territories](#), [waste incineration](#) is included in renewable portfolio standards – rules that require utilities to produce specific fractions of their power from qualifying renewable fuels. The Obama administration's Clean Power Plan – which the Trump administration has pledged to replace – [allowed states to classify waste incineration](#) and co-incineration as carbon-neutral forms of energy production.

Another EPA policy, the [Non-Hazardous Secondary Materials rule](#), was amended in 2013 to redefine waste so that municipal solid waste can now be processed to become "non-waste fuel products." These renamed wastes can be burned in facilities such as boilers that are subject to [less-stringent environmental standards than solid waste incinerators](#). This is good news for an industry trying to [monetize waste materials such as railroad crossties](#) by treating them as fuel.

Why waste incineration is not sustainable

Many environmental advocates in the [United States](#) and [Europe](#) are alarmed over government approval of increasingly diverse waste fuels, along with relaxed oversight of the incineration industry.

Although municipal solid waste combustion is [regulated under the Clean Air Act](#), host communities are concerned about potential [health impacts](#). Emissions typically associated with incineration include particulate matter, lead, mercury and dioxins.



U.S. municipal solid waste generation, 1960-2013. Credit: USEPA

In 2011 the New York Department of Environmental Conservation found that although facilities burning waste in New York complied with existing law, they released [up to 14 times more mercury, twice as much lead and four times as much cadmium per unit of energy than coal plants](#)

[Disproportionate siting](#) of incinerators and waste facilities in communities of color and low-income communities was a key driver for the emergence of the environmental justice movement. In 1985 there were [200 proposed or existing incinerators](#) online, but by 2015 fewer than 85 plants remained. Many U.S. communities effectively organized to defeat proposed plants, but poor, marginalized and less-organized

[communities remained vulnerable.](#)

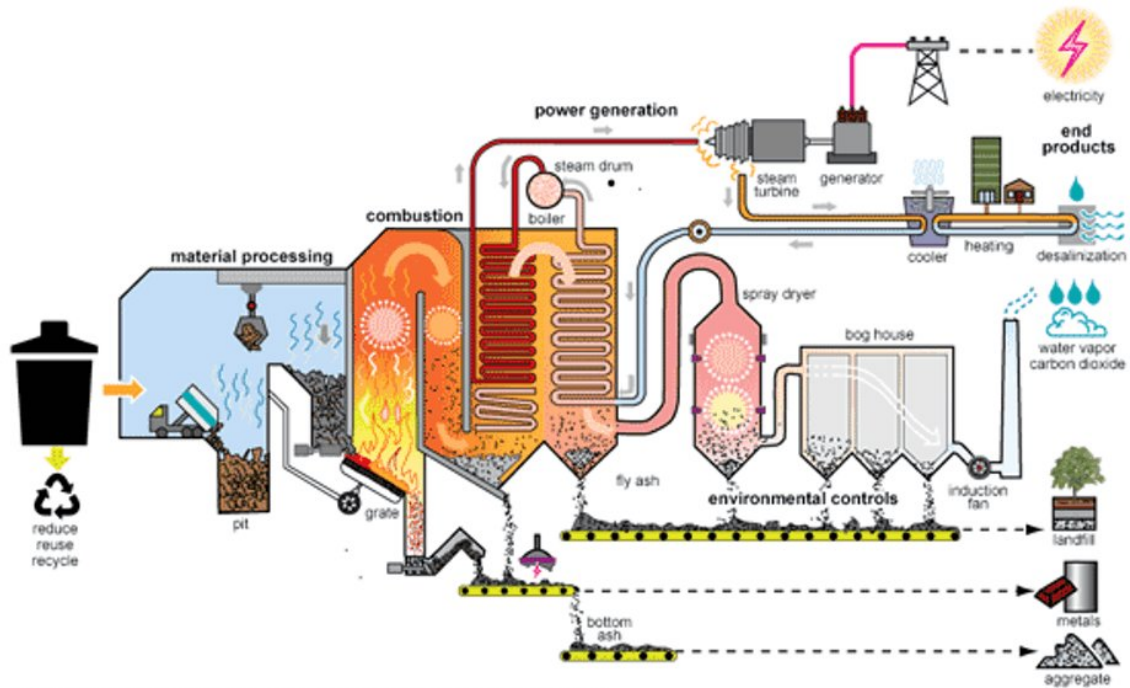
Now some companies are turning to co-incineration rather than building new plants. This move sidesteps [substantial upfront costs](#) and risky financial arrangements, which have created debt problems for host municipalities such as [Harrisburg, Pennsylvania](#).

Co-incineration offers [new markets for waste-derived fuels](#) using existing infrastructure. It is hard to measure how many facilities are currently using co-incineration, since EPA's Non-Hazardous Secondary Materials rule does not require them to report it. But as one data point, two affiliated building material companies, Systech and Geocycle, are co-processing waste in [22 cement kilns in the United States and Canada](#).

Co-incineration is not clean

As an example of concerns over co-incineration, consider the [Hefty Energy Bag](#) program, which is sponsored by Dow Chemical Company and promoted by the nonprofit group [Keep America Beautiful](#). This project offers grants to municipalities to participate in a curbside pilot program that collects hard-to-recycle plastics for energy production.

Waste-to-energy plant



Source: Adapted from the National Energy Educational Development Program

Currently this initiative is collecting plastics in Omaha, Nebraska, and mostly co-incinerating them at the [Sugar Creek cement kiln](#) in Missouri. In 2010, the owner of this plant and 12 others [settled with EPA](#) for violating the Clean Air Act and other air pollution regulations, paying a US\$5 million fine and agreeing to install new pollution controls. Although this is just one example, it indicates that concerns over air quality impacts from co-incineration are real.

Waste incineration deflects attention from more sustainable solutions, such as redesigning products for recyclability or eliminating toxic, hard-to-recycle plastics. Currently only [about one-third](#) of municipal solid waste is recycled in the United States. Rates for some types of plastics

are even lower.

Dow's partnership with Keep America Beautiful is particularly problematic because it takes advantage of local municipalities and residents who want to promote zero-waste, climate-friendly policies. According to the Environmental Protection Agency, burning [municipal solid waste](#) emits [nearly as much carbon per unit of energy as coal, and almost twice as much as natural gas](#).

As the Trump administration reverses or abandons national and [international](#) policies to address climate change, many Americans are looking to local and state governments and the private sector to lead on this issue. Many [cities](#) and states are committing to ambitious [zero-waste](#) and [renewable energy](#) targets.

These policies can drive innovations in a greening economy, but they can also provide perverse incentives to greenwash and repackage old solutions in new ways. In my view, incineration is a false solution to climate change that diverts precious resources, time and attention from more systemic solutions, such as waste reduction and real renewable fuels like solar and wind. Whether it's an incinerator, cement kiln or coal plant, if you put garbage into a system, you get garbage out.

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