WE HAVE TOO MUCH PLASTIC THAT HAS NOWHERE TO GO...

CAN WE JUST BURN IT?

Burning is the most harmful way to handle plastic waste. It turns one form of pollution into others, including air emissions, toxic ash, and wastewater.

"Waste-to-energy" and other forms of incineration release toxic substances such as dioxins, furans, lead, mercury, acid gases, and particulate matter. Workers and nearby communities, most often low-income communities, face the greatest health risks associated with toxic air emissions, ash, and wastewater.

Plastic is also a climate polluter

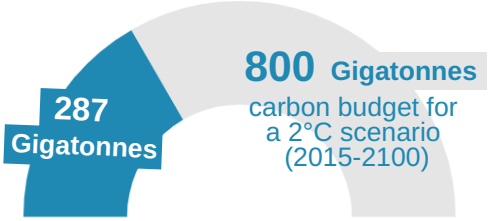
Incineration is the worst disposal method for plastic: burning **one metric ton of plastic** in an incinerator results in **1.4 metric ton of CO_2 equivalents**, even when accounting for energy recovery from the process.

With the petrochemical and plastic industries currently planning an expansion in production, the greenhouse gas emissions from the lifecycle of plastic are going to get much worse. If plastic production and consumption grow as currently planned, they will result in **287 billion metric tons of CO_2 equivalents by 2100**, which is more than one-third of the whole carbon budget for a 2°C economy.

1 = **1.4**

Metric ton of plastic burned at WTE incineration facility

Metric ton of CO_2 even after energy recovery

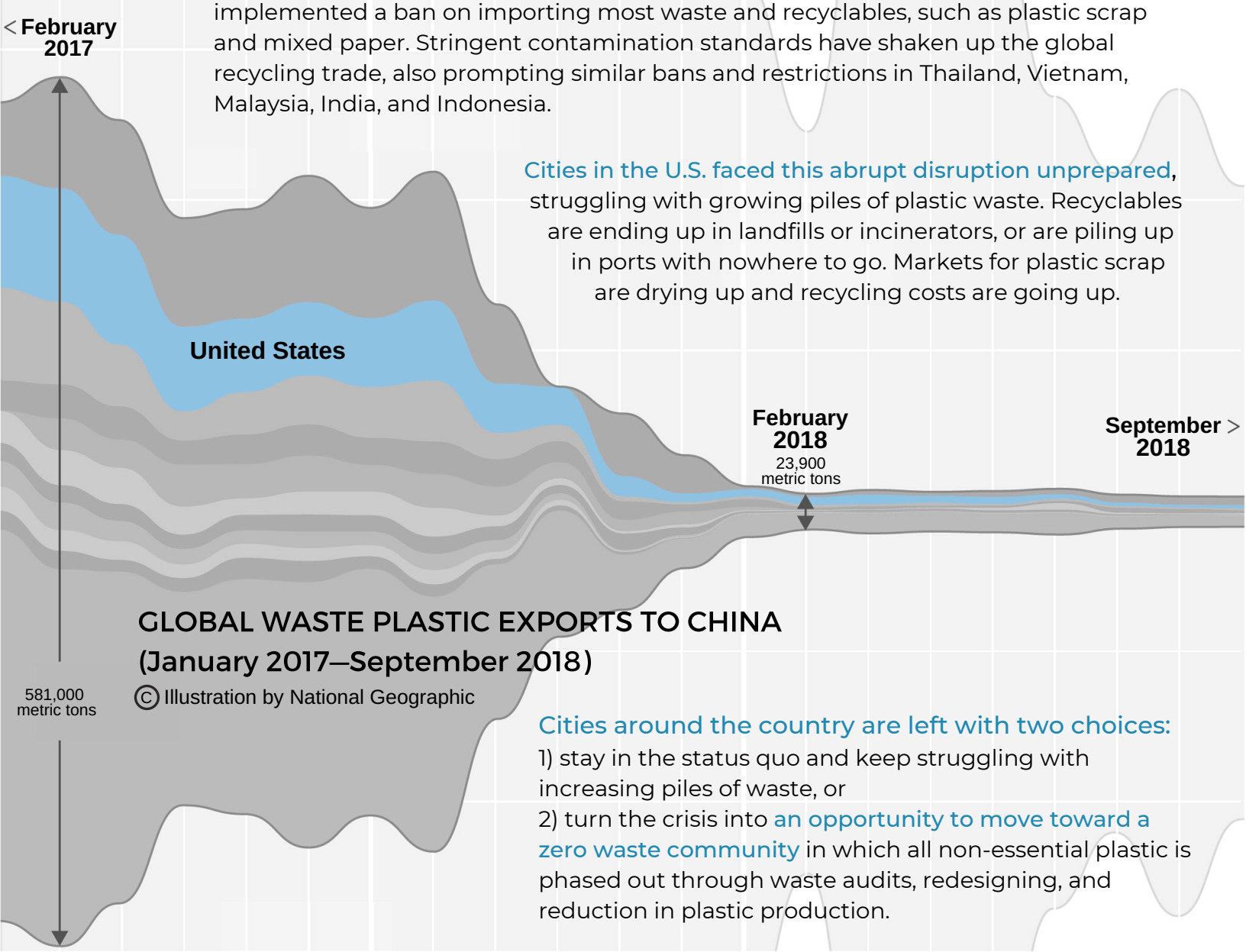


Source: UKWIN (2019). Climate Change Report; Material Economics (2018). The Circular Economy: a Powerful Force for Climate Mitigation; Center for International Environmental Law (2019). Plastic&Health:The Hidden Costs of Plastic Planet.

WASTE IMPORT BANS AND U.S. CITIES AT A CROSSROADS

Since January 2018, some plastic collected for recycling is being sent to incinerators and landfills after international waste import bans hit U.S. Cities.

Until recently, China had been taking about 40% of US waste plastics, paper, and other recyclables. This trans-Pacific waste route ground to a halt after China implemented a ban on importing most waste and recyclables, such as plastic scrap and mixed paper. Stringent contamination standards have shaken up the global recycling trade, also prompting similar bans and restrictions in Thailand, Vietnam, Malaysia, India, and Indonesia.



GLOBAL WASTE PLASTIC EXPORTS TO CHINA
(January 2017—September 2018)

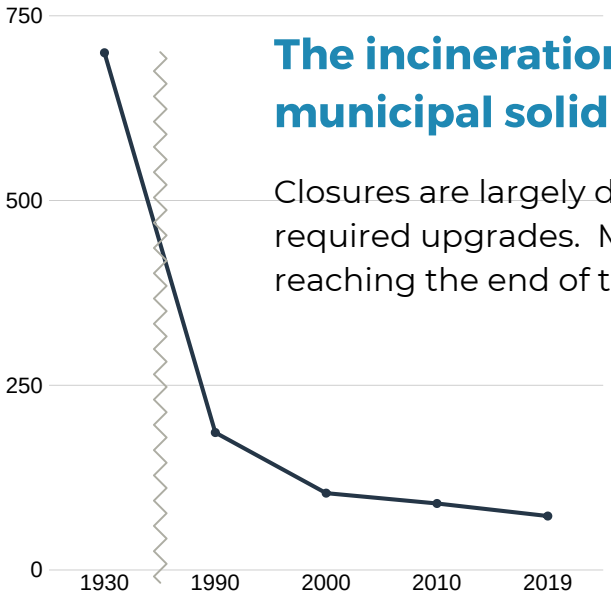
Cities in the U.S. faced this abrupt disruption unprepared, struggling with growing piles of plastic waste. Recyclables are ending up in landfills or incinerators, or are piling up in ports with nowhere to go. Markets for plastic scrap are drying up and recycling costs are going up.

Cities around the country are left with two choices:
1) stay in the status quo and keep struggling with increasing piles of waste, or
2) turn the crisis into an opportunity to move toward a zero waste community in which all non-essential plastic is phased out through waste audits, redesigning, and reduction in plastic production.

Fortunately, cities like Berkeley, California, are leading the way toward zero waste, instead of trying to look for alternative destinations. The city passed a historic ordinance which restricts the use of disposable takeout foodware and requires that all eat-in dining be on reusables by July 2020.

INCINERATORS ARE FAILING

Incinerators are one of the most toxic, expensive, dangerous, and climate-polluting industries in the U.S. A comprehensive study published by the Tishman Environment and Design Center at The New School paints a picture of the aging waste incineration industry that is under increasing pressure both from economic and regulatory forces, as well as community action.

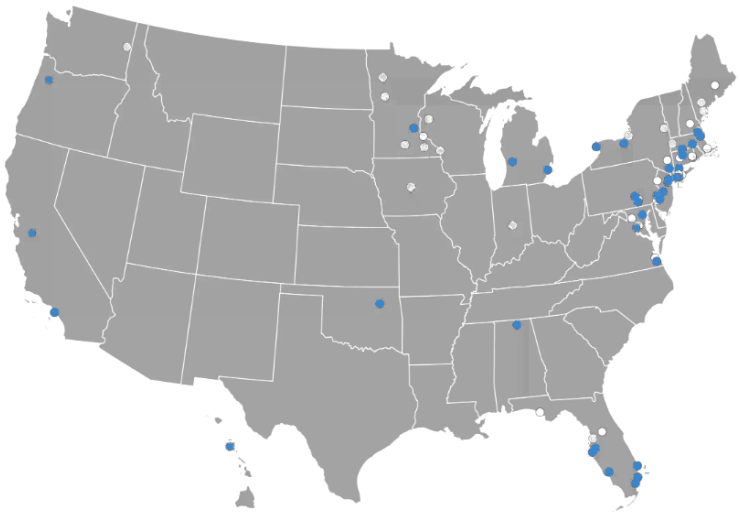


Number of MSW Incinerators in the U.S.

The incineration industry is in decline: At least 31 municipal solid waste incinerators closed since 2000.

Closures are largely due to insufficient revenue and inability to afford required upgrades. Most of the remaining incinerators in the U.S. are also reaching the end of their lifespans.

Cities who have invested in incinerators have lost millions of dollars, and some even have declared bankruptcy. Taxpayers have to pay for their city's costly mistake.



MSW Incinerators in the U.S.
(● : low-income communities and/or communities of color)

Approximately 8 out of 10 incinerators in the U.S. are sited in low-income communities and/or communities of color.

The people who are least responsible for the waste crisis are forced to pay the highest price, both with their pocketbooks and their health.

Air pollutants contribute to and exacerbate cumulative impacts that exist in these communities where the population is already overburdened by other industrial facilities including petrochemical plants.

Source: The New School Tishman Environment and Design Center (2019). U.S. Solid Waste Incinerators: An Industry in Decline.

THE PLASTIC AND INCINERATION INDUSTRIES ARE JOINING FORCES

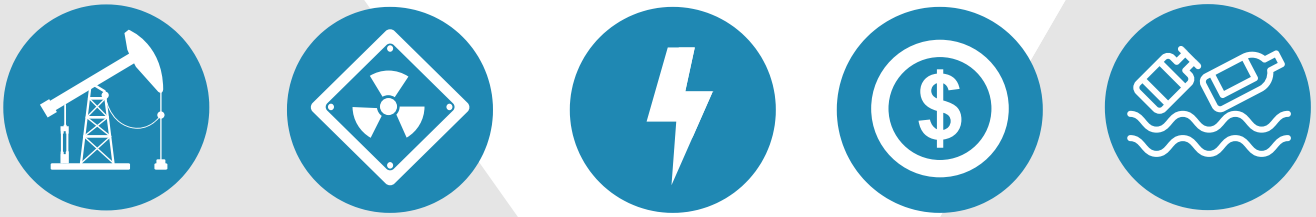
The petrochemical and plastic industries are working together with incineration companies to promote false approaches that involve various forms of waste incineration

IN THE NAME OF "CHEMICAL RECYCLING"

Because of the plastic waste crisis, more technological approaches are emerging, with a promise to turn plastic waste into new plastic. While the questions on the feasibility, toxicity, and climate impact remain unanswered due to the scarcity of operational examples, new proposals are popping up in the name of "chemical recycling." Industry has been widely using the term, disguising operations that treat plastic to burn as some kind of "recycling."

The "plastic-to-fuel" plants use heat to turn plastic into fuel. The processes by no means qualify as recycling. They are classified as a form of waste incineration that poses similar environmental health risks as conventional incinerators by the U.S. federal law, provided that the resulting fuel is burned.

THE PROBLEMS OF "PLASTIC-TO-FUEL"



Produces dirty fossil fuel

Toxic emissions, ash, char, slag and wastewater

Energy-intensive to operate and maintain

Cost-prohibitive, high-profile failures

Justifies overproduction of plastic

THE ALLIANCE TO AVOID PLASTIC REDUCTION

Plastic and incineration giants jointly work to promote their unproven technological fixes and interfere with regulatory processes to reclassify plastic burning as recycling or manufacturing.

Earlier this year, corporations including BASF, Braskem, DSM, ExxonMobil, Henkel, Procter & Gamble, Suez and Veolia formed **the Alliance to Stop Plastic Waste (ASPW)** and pledged to invest **$1.0 billion and leverage $500 million** over the next five years into research and development, with a focus on false solutions, such as pyrolysis. Reducing plastic production seems to be the lowest priority of the alliance, as some of the alliance members are investing more than **$180 billion** in new plastic manufacturing facilities. As of September 2018, **$202 billion** is projected to flow into petrochemical build-out in the U.S. for 333 new facilities or expansion projects.

$0?
Investments in source reduction

$1 billion
Investments in downstream measures

$202 billion
Investments in more plastic production

Source: Center for International Environmental Law (2019), Plastic & Climate:The Hidden Costs of Plastic Planet.

Any approaches to converting plastic waste into fuels justify over-production and consumption, perpetuating a wasteful throw-away economy

Plastic is made from natural gas. Fuels derived from plastic in any form is **NOT** plastic recycling, but just another form of fossil fuel. Incineration, "plastic to fuel," and any other escape valves for excess plastic must be dismissed.

BURNING PLASTIC = MORE PLASTIC PRODUCTION

Zero waste is gaining traction

More cities are passing regulations to reduce single-use plastic, as it becomes clear that the world cannot recycle its way out of plastic pollution. In the transition away from single-use plastic through government regulation and other means, plastic recycling will have an important but limited role.

Communities are building a circular system all around the world, by assessing waste streams and demanding corporations to redesign problematic products and packaging that do not fit in the circular loop. All discarded materials become resources instead of ending up in landfills or incinerators through this system. Many communities are working to phase out polluting waste management facilities while building a zero waste path.

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