

INCINERATION 2.0: A Bad Idea for New York

The Bloomberg Administration's updated PlaNYC calls for piloting new waste-to-energy technologies in New York City to handle the city's solid waste.¹ Waste-to-energy (WTE) is a broad term that includes a wide variety of processes, from tapping landfill gas to composting animal manure to produce methane. However, it most commonly refers to technologies that produce electricity from burning garbage. Time and time again, New Yorkers have stood up and said "NO" to garbage incinerators polluting our communities.

INCINERATORS 2.0 - Newer versions, same problems

Many of the newer WTE technologies, like gasification, pyrolysis, and plasma incineration, are promoted as "modern" alternatives to conventional mass-burn incinerators. In fact, all of these technologies, when using mixed solid waste, are considered incineration by both the U.S. Environmental Protection Agency² and the European Union.³ In very simple terms, while mass-burn incinerators burn mixed waste in a single chamber to produce electricity, gasification, pyrolysis and plasma incinerators first use heat to convert waste into gas (and sometimes solids) and then burn it.⁴ Because of this multi-step process, these technologies are often referred to as "staged incinerators." **The newer versions pose the same threats to our health, our communities, our economy, and our environment as the older garbage incinerators do – and in some ways they are even worse.**

UNSAFE → Burning garbage releases harmful emissions into the air we breathe

Burning municipal solid waste (MSW) can release harmful emissions into the air, including particulate matter, volatile organic chemicals (VOCs), heavy metals, mercury, acid gases, and dioxins and furans, which are extremely potent carcinogens that are generated during the combustion process. Studies show that the new generation of staged incinerators emit comparable levels of toxic emissions as conventional mass burn incinerators.⁵ In fact, a pilot pyrolysis incinerator in southern California generated **twice as much dioxin** as two nearby garbage incinerators in Los Angeles.⁶ Significant new health concerns have been raised about emissions of ultrafine particles, including lead and other toxic metals, which cannot be captured by air filters. When inhaled, these nanoparticles can lodge deep in the lungs, enter the blood stream, and raise the risk of heart attacks, cancer, and neurological disorders.⁷ Furthermore, garbage incinerators release more greenhouse gas emissions than coal-fired plants, worsening air quality and contributing to respiratory problems and other serious health impacts.⁸

UNPROVEN → The newer incinerators have not been proven commercially viable.

Staged incineration technologies have not yet been successfully demonstrated in the U.S. in an economically viable, environmentally protective, commercial-scale operation.⁹ Their record here and abroad has been plagued with operational problems including malfunctions, explosions and shutdowns. Serious accidents resulting in the uncontrolled release of incinerator gases have taken place in Germany and elsewhere, and numerous gasification, pyrolysis, and plasma arc incinerators never made it past the design stage or have had to be permanently shut down.¹⁰

UNWISE → Burning garbage is the most inefficient and expensive way to generate energy.

Garbage is a dirty and inefficient fuel. According to the federal government, garbage incinerators have the highest capital and operating costs of any type of power plant.¹¹ In many

communities saddled with these costly white elephants, local citizens and taxpayers have been faced with steep rate hikes and tax increases. For instance, Harrisburg, Pennsylvania has one of the lowest credit ratings in the country and is on the verge of bankruptcy after borrowing \$125 million to expand and upgrade its garbage incinerator in 2003.¹² The more complex staged incineration processes are likely to be “significantly more expensive” than conventional incinerators.¹³ In addition, the newer technologies appear to be even less efficient than mass-burn incinerators when it comes to generating electricity.¹⁴ Most municipalities have rejected WTE based on cost profiles alone.

UNSUSTAINABLE → Recycling saves more energy than burning garbage generates, costs less, and creates more jobs. Sustainable policies put waste prevention and recycling at the top of the waste management hierarchy, ahead of both landfilling and incineration. Recycling materials saves 3-5 times the energy that burning them generates. Burning garbage produces neither clean nor renewable energy – but it does produce harmful emissions and large quantities of residue such as ash, slag, and wastewater that contain toxics and must be treated and disposed of, usually in landfills. Moreover, recycling creates ten times as many jobs as either landfilling or incineration – green jobs that could be based right here in New York City.¹⁵ Nearly 90% of the waste stream can be recycled or composted.¹⁶ But the state’s average recycling rate is a dismal 20%, and New York City’s recycling rate is even lower.¹⁷ In contrast, San Francisco – which has committed to a zero waste goal by 2020 – is already diverting 72% of its waste stream. **This is the sustainability goal that New York City should be striving for.**

For more information, contact NYPIRG at 212-349-6460

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¹ The City of New York, “*PlaNYC, A Greener, Greater New York*,” April 2011 update, pp. 142-143.

² 40 CFR Part 60 Subpart eb 60.51b.

³ Directive 2000/76/EC of the European Parliament and of the Council on the Incineration of Waste, Dec. 4, 2000, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0076:EN:NOT>.

⁴ David Ciplet, “*An Industry Blowing Smoke: 10 Reasons Why Gasification, Pyrolysis and Plasma Incineration are not “Green Solutions,”*” Global Alliance for Incinerator Alternatives, June 2009.

⁵ European Commission, Integrated Pollution Prevention and Control Reference Document on the Best Available Techniques for Waste Incineration, August 2006; Tellus Institute, et al., “*Assessment of Materials Management Options for the Massachusetts Solid Waste Master Plan Review*,” Final report to the Massachusetts Department of Environmental Protection, Dec. 2008.

⁶ Jay Chen. *IES Romoland Emission Tests, status update*. South Coast Air Quality Management District, Emerging Technologies Forum, April 17, 2006.

⁷ C. Vyvyan Howard, “*Particulate Emissions and Health Proposed Ringaskiddy Waste-to-Energy Facility*,” June 2009.

⁸ Brenda Platt, et al., *Stop Trashing the Climate*, June 2008, p. 30, citing USEPA data.

⁹ N.Y.S. Department of Environmental Conservation, “*Beyond Waste: A Sustainable Materials Management Strategy for New York State*,” Dec. 27, 2010., pp.225-7

¹⁰ See Ciplet, *supra*, note 4, pp. 12, 14.

¹¹ U.S. Department of Energy, U.S. Energy Information System, “*Updated Capital Cost Estimates for Electricity Generation Plants*,” November 2010.

¹² “An Incinerator Becomes Harrisburg’s Money Pit,” *The New York Times*, May 20th, 2010.

¹³ Fichtner Consulting Engineers Limited, “*The Viability of Advanced Thermal Treatment in the UK*,” 2004.

¹⁴ See Ciplet, *supra*, note 4, pp. 19-20.

¹⁵ *Ibid*, at p. 21.

¹⁶ See “*Beyond Waste*,” *supra* note 8.

¹⁷ *Ibid*, at p. 137.