

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Environment and Natural Resources

BILL: SB 1008

INTRODUCER: Senator Avila

SUBJECT: Waste Incineration

DATE: March 14, 2025

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Barriero</u>	<u>Rogers</u>	<u>EN</u>	<u>Pre-meeting</u>
2.	_____	_____	<u>CA</u>	_____
3.	_____	_____	<u>RC</u>	_____

I. Summary:

SB 1008 prohibits the Department of Environmental Protection and local governments from issuing construction permits for a new solid waste disposal facility that uses an ash-producing incinerator or a waste-to-energy facility if the proposed location of such facility is sited within a one-half mile radius of any residential property, commercial property, or school.

II. Present Situation:

Incinerators and Waste-to-Energy Facilities

Energy recovery from waste is the conversion of non-recyclable waste materials into usable heat, electricity, or fuel through processes, including combustion, gasification, pyrolyzation, anaerobic digestion, and landfill gas recovery.¹ This process is often called waste-to-energy (WTE).²

Municipal solid waste (MSW) can be used to produce energy at WTE plants and landfills.³ MSW can contain:

- Biomass, or biogenic (plant or animal products) materials such as paper, cardboard, food waste, grass clippings, leaves, wood, and leather products;
- Nonbiomass combustible materials such as plastics and other synthetic materials made from petroleum; and
- Noncombustible materials such as glass and metals.⁴

¹ U.S. Environmental Protection Agency (EPA), *Energy Recovery from the Combustion of Municipal Solid Waste (MSW)*, <https://www.epa.gov/smm/energy-recovery-combustion-municipal-solid-waste-msw> (last visited Mar. 3, 2025).

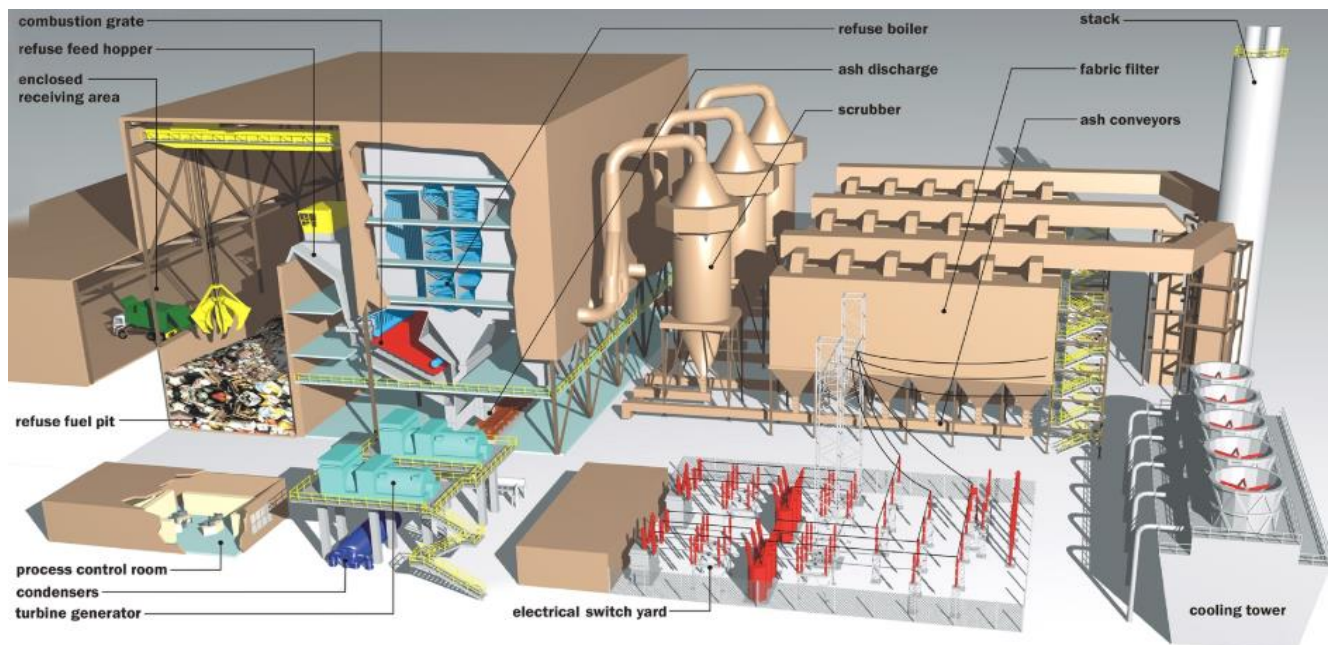
² *Id.*

³ U.S. Energy Information Administration (EIA), *Biomass explained, Waste-to-energy (Municipal Solid Waste), Basics*, <https://www.eia.gov/energyexplained/biomass/waste-to-energy.php> (last visited Mar. 3, 2025).

⁴ *Id.*

The process of MSW incineration is generally divided into three main parts: incineration, energy recovery, and air-pollution control.⁵ Most modern incinerators are equipped with energy-recovery schemes, which produce WTE ash.⁶ Three major classes of technologies are used to combust MSW: mass burn, refuse-derived fuel, and fluidized-bed combustion.⁷ The most common WTE system in the U.S. is the mass-burn system.⁸

At an MSW combustion facility, MSW is unloaded from collection trucks and placed in a trash storage bunker.⁹ An overhead crane sorts the waste and then lifts it into a combustion chamber to be burned. The heat released from burning converts water to steam, which is then sent to a turbine generator to produce electricity. The remaining ash is collected and taken to a landfill where a high-efficiency baghouse filtering system captures particulates. As the gas stream travels through these filters, more than 99 percent of particulate matter is removed. Captured fly ash particles fall into hoppers (funnel-shaped receptacles) and are transported by an enclosed conveyor system to the ash discharger. They are then wetted to prevent dust and mixed with the bottom ash from the grate. The facility transports the ash residue to an enclosed building where it is loaded into covered, leak-proof trucks and taken to a landfill designed to protect against groundwater contamination.¹⁰



Example of a WTE plant¹¹

⁵ Byoung Cho et al., *Municipal Solid Waste Incineration Ashes as Construction Materials—A review*, *Materials*, vol. 13, 2 (2020), available at <https://pmc.ncbi.nlm.nih.gov/articles/PMC7411600/>.

⁶ *Id.*

⁷ *Id.*

⁸ EIA, *Biomass explained: Waste-to-energy (Municipal Solid Waste), In-depth*, <https://www.eia.gov/energyexplained/biomass/waste-to-energy-in-depth.php> (last visited Mar. 3, 2025).

⁹ EPA, *Energy Recovery from the Combustion of Municipal Solid Waste (MSW)*, <https://www.epa.gov/smm/energy-recovery-combustion-municipal-solid-waste-msw#Technology> (last visited Mar. 10, 2025).

¹⁰ *Id.*

¹¹ Pinellas County, *Waste-to-Energy Facility*, <https://pinellas.gov/waste-to-energy-facility/> (last visited Mar. 3, 2025) (showing graphic of a mass-burn waste-to-energy plant).

About 90 percent of the energy produced by WTE plants is delivered to the electric grid.¹² The remaining 10 percent consists of steam that some WTE facilities send to nearby industrial plants and institutions.¹³

Waste incineration first became popular in the U.S. in the first half of the 20th century as a way to manage waste but declined after the passage of the Clean Air Act in 1963 forced facilities to either adopt costly air pollution controls or shut down.¹⁴ In the 1970s and 1980s, waste-to-energy facilities rose again in popularity as a way to produce a low-cost energy alternative to coal, which was considered by some at the time to be a renewable energy source. Now, the number of incinerators has again declined nationally due to public concern about their environmental and health impacts, as well as a loss in profitability.¹⁵ In Florida, there are currently 10 WTE facilities.¹⁶ Florida has the largest capacity to burn MSW of any state in the country.¹⁷

Solid Waste Facility Permitting in Florida

In Florida, the governing body of a county has the responsibility to provide for the operation of solid waste disposal facilities to meet the needs of all incorporated and unincorporated areas of the county.¹⁸ A county may enter into a written agreement with other parties to undertake some or all of its responsibilities.¹⁹

A solid waste management facility may not be operated, maintained, constructed, expanded, modified, or closed without a permit issued by the Department of Environmental Protection (DEP).²⁰ In addition to a solid waste management facility permit, WTE facilities may also require an air construction and operation permits.²¹

DEP may only issue a construction permit to a solid waste management facility that provides the conditions necessary to control the safe movement of wastes or waste constituents into surface or

¹² U.S. Energy Information Administration, *Waste-to-energy plants are a small but stable source of electricity in the United States*, <https://www.eia.gov/todayinenergy/detail.php?id=55900> (last visited Mar. 9, 2025).

¹³ *Id.*

¹⁴ University of Florida, Thompson Earth Systems Institute, *Tell Me About: Waste Incineration in Florida* (2022), <https://www.floridamuseum.ufl.edu/earth-systems/blog/tell-me-about-waste-incineration-in-florida/> (last visited Mar. 3, 2025).

¹⁵ *Id.* The major concern associated with MSW incineration is the air pollution caused by dioxin, furan, and heavy metals originating from MSW. Cho, *Municipal Solid Waste Incineration Ashes as Construction Materials—A review* at 2. See also C. Ferreira et al., *Heavy metals in MSW incineration fly ashes*, *Journal de Physique IV*, vol. 107 (2003), available at <https://jp4.journaldephysique.org/articles/jp4/abs/2003/05/jp4pr5p463/jp4pr5p463.html>; Junjie Zhang et al., *Degradation technologies and mechanisms of dioxins in municipal solid waste incineration fly ash: A review*, *Journal of Cleaner Production*, vol. 250 (2020), available at <https://www.sciencedirect.com/science/article/abs/pii/S095965261934377X>.

¹⁶ DEP, *Waste-to-Energy*, <https://floridadep.gov/waste/permitting-compliance-assistance/content/waste-energy> (last visited Mar. 3, 2025). The state had 11 WTE facilities until 2023 when a fire destroyed one in Miami-Dade County. See Mayor Daniella Levine Cava, *Memorandum on Site Selection for a Sustainable Solid Waste Campus and Update on Miami-Dade County's Solid Waste Disposal Strategy*, 1 (2024), available at [d https://documents.miamidade.gov/mayor/memos/09.13.24-Site-Selection-for-a-Sustainable-Solid-Waste-Campus.pdf](https://documents.miamidade.gov/mayor/memos/09.13.24-Site-Selection-for-a-Sustainable-Solid-Waste-Campus.pdf).

¹⁷ DEP, *Waste-to-Energy*.

¹⁸ Section 403.706(1), F.S.

¹⁹ Section 403.706(8), F.S.

²⁰ See section 403.707(1), F.S.

²¹ Sections 403.707(6) and 403.087(1), F.S.; Fla. Admin. Code R. 62-210.300. See also DEP, *Air Construction Permits*, <https://floridadep.gov/sites/default/files/Air-Construction-Permits.pdf> (last visited Mar. 10, 2024).

ground waters or the atmosphere and that will be operated, maintained, and closed by qualified and properly trained personnel.²² Such facility must if necessary:

- Use natural or artificial barriers that can control lateral or vertical movement of wastes or waste constituents into surface or ground waters.
- Have a foundation or base that can provide support for structures and waste deposits and capable of preventing foundation or base failure due to settlement, compression, or uplift.
- Provide for the most economically feasible, cost-effective, and environmentally safe control of leachate, gas, stormwater, and disease vectors and prevent the endangerment of public health and the environment.²³

DEP can exempt certain types of facilities from permit requirements if it determines that construction or operation of the facility is not expected to create any significant threat to the environment or public health.²⁴

DEP must allow WTE facilities to maximize acceptance and processing of nonhazardous solid and liquid waste.²⁵ Ash from WTE facilities must be disposed of in a lined MSW landfill or a lined ash monofill, since an U.S. Environmental Protection Agency (EPA) study showed that ash from WTE facilities should not be classified as hazardous waste.²⁶

Federal Regulations on Waste Incineration

Pursuant to the Clean Air Act, EPA has developed regulations limiting emissions of nine air pollutants—particulate matter, carbon monoxide, dioxins/furans, sulfur dioxide, nitrogen oxides, hydrogen chloride, lead, mercury, and cadmium—from four categories of solid waste incineration units: (1) municipal solid waste; (2) hospital, medical and infectious solid waste; (3) commercial and industrial solid waste; and (4) other solid waste.²⁷

Emission limits may vary depending on the size and type of the facility (e.g., large versus small municipal waste combustors) and whether the materials incinerated are hazardous.²⁸ In 2024, EPA proposed stricter standards for large municipal waste combustion units.²⁹ EPA is also

²² Section 403.707(6), F.S.

²³ *Id.*

²⁴ Section 403.707(1), F.S.

²⁵ Section 403.707(1), F.S.

²⁶ DEP, *Waste-to-Energy*, <https://floridadep.gov/waste/permitting-compliance-assistance/content/waste-energy> (last visited Mar. 10, 2025).

²⁷ EPA, *Large Municipal Waste Combustors (LMWC): New Source Performance Standards (NSPS) and Emissions Guidelines*, <https://www.epa.gov/stationary-sources-air-pollution/large-municipal-waste-combustors-lmwc-new-source-performance> (last visited Mar. 11, 2025). See 71 Fed. Reg. 27325-26 (adopting final rule regarding standards of performance for new stationary sources and emission guidelines for existing sources: large municipal waste combustors); 40 CFR part 60.

²⁸ See generally EPA, *Clean Air Act Guidelines and Standards for Waste Management*, <https://www.epa.gov/stationary-sources-air-pollution/clean-air-act-guidelines-and-standards-waste-management> (last visited Mar. 11, 2025).

²⁹ 89 Fed. Reg. 4243, 4246 (Jan. 23, 2024) (proposing amendments to 40 CFR part 60). Large municipal waste combustors combust greater than 250 tons per day of municipal solid waste. 40 CFR 60.32b and 60.50b; EPA, *Large Municipal Waste Combustors (LMWC): New Source Performance Standards (NSPS) and Emissions Guidelines*, <https://www.epa.gov/stationary-sources-air-pollution/large-municipal-waste-combustors-lmwc-new-source-performance> (last visited Mar. 11, 2025).

considering requiring waste incinerators to report toxic releases to the toxic release inventory, which tracks the management of certain toxic chemicals.³⁰

III. Effect of Proposed Changes:

Section 1 amends s. 403.706, F.S., which regulates local government solid waste responsibilities. The bill prohibits local governments from issuing a construction permit for a new solid waste disposal facility that uses an ash-producing incinerator or a waste-to-energy facility, if the proposed location of such facility is sited within a one-half mile radius of any residential property, commercial property, or school.

Section 2 amends s. 403.707, F.S., which regulates solid waste facility permits. The bill prohibits the Department of Environmental Protection from issuing a construction permit for a new solid waste disposal facility that uses an ash-producing incinerator or for a waste-to-energy facility, if the proposed location of such facility is sited within a one-half mile radius of any residential property, commercial property, or school.

Section 3 through 5 provide conforming changes.

Section 6 provides an effective date of July 1, 2025.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

³⁰ EPA, *Memorandum re: Petition for Rulemaking Pursuant to the Administrative Procedure Act and the Emergency Planning and Community Right-to-Know Act, Requiring that Waste Incinerators Report to the Toxics Release Inventory*, 1-2 (2024), available at https://peer.org/wp-content/uploads/2024/12/PET-001757_Incinerators_PetitionResponse_Ltr.pdf; EPA, *What is the Toxics Release Inventory?*, <https://www.epa.gov/toxics-release-inventory-tri-program/what-toxics-release-inventory> (last visited Mar. 11, 2025). U.S. facilities in different industry sectors must report annually how much of each chemical they release into the environment and/or managed through recycling, energy recovery and treatment, as well as any practices implemented to prevent or reduce the generation of chemical waste. *Id.*

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

The bill may increase costs associated with siting incinerators and waste-to-energy facilities or relying on other methods of waste management when incineration and waste-to-energy facilities are not feasible.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill substantially amends the following sections of the Florida Statutes: 403.706, 403.707, 403.703, 403.7049, and 403.705.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:

(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.