

Large Municipal Waste Combustors

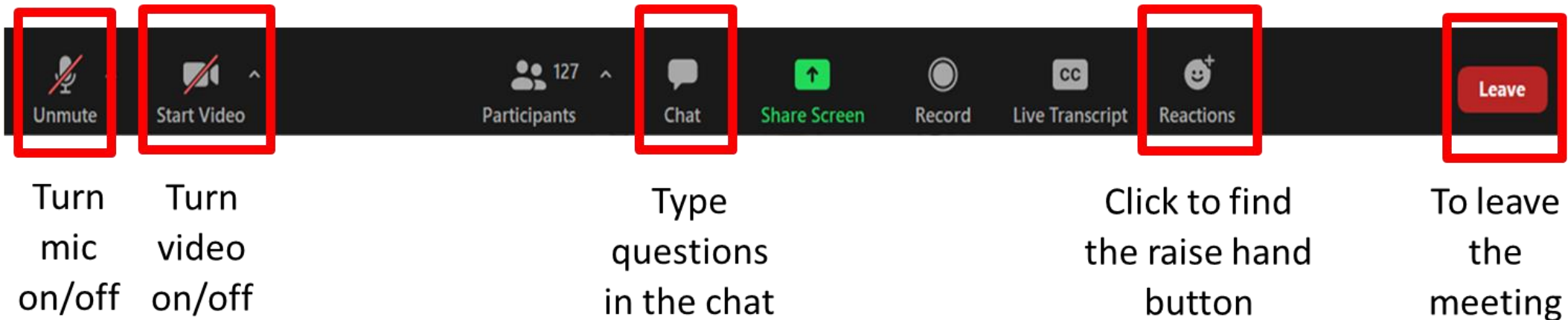
Standards of Performance for
New Stationary Sources and
Emissions Guidelines for
Existing Sources

FEDERALISM AND UMRA
CONSULTATION

MARCH 16, 2023

Meeting Logistics

- To minimize distractions, please **remain muted** and **turn off your camera** during the presentation
- If you have **questions about the information** EPA presents during today's consultation:
 - Raise your hand or type your question in the chat
 - EPA staff will call on you when we are at a stopping point, or at the end of the presentation during the discussion portion of the meeting
 - When you are called, unmute yourself and if you'd like turn on your video



Introduction to Today's Consultation

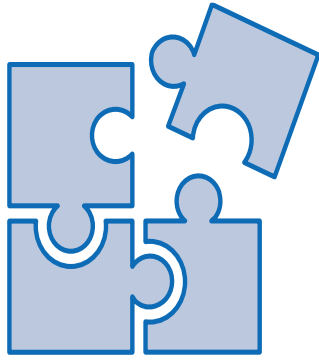
Roll Call

- Office of Congressional and Intergovernmental Relations

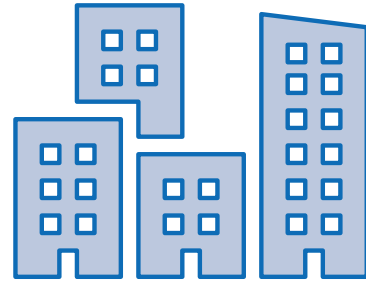
Welcome

- Office of Congressional and Intergovernmental Relations
- Office of Air Quality Planning and Standards, Sector Policies and Programs Division

Agenda



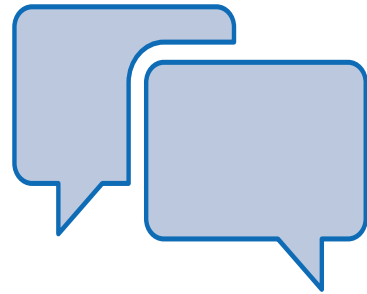
Background



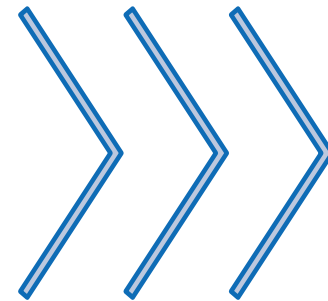
Facility Information



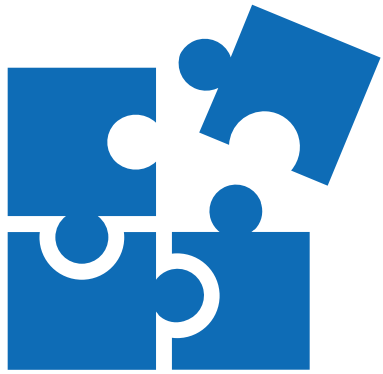
Upcoming
Rulemaking



Discussion

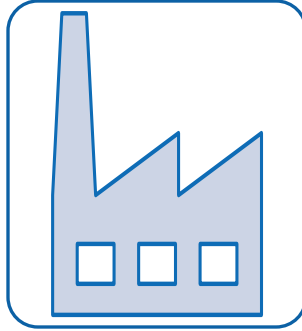


Process



Background

Large Municipal Waste Combustors (LMWCS)



Combust >250
tons/day

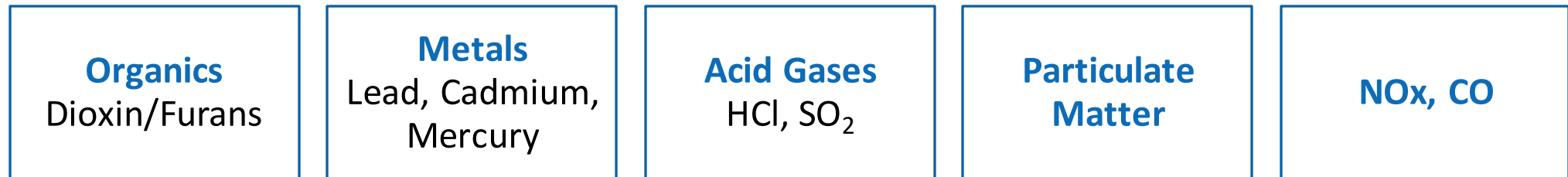


Combust municipal
solid waste

- Refuse collected from the **general public** and from **residential, commercial, institutional,** and **industrial** sources consisting of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other **combustible materials** and **non-combustible materials** such as metal, glass, and rock
- Does **not include** industrial process wastes or medical wastes segregated from other wastes

Clean Air Act Section 129

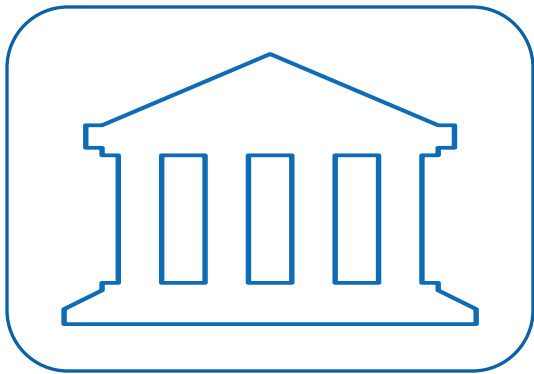
- Clean Air Act section 129 applies to any source burning **nonhazardous solid waste**
- EPA must set **numerical emissions standards** for new and existing sources for the following air pollutants:



- Opacity is regulated as appropriate
- Work practice standards are not allowed
- EPA has discretion to distinguish among classes, types, and sizes within a category
- Title V operating permits are required for all sources/units
- EPA must review and revise standards as needed every 5 years (more frequent than other programs)

New Sources

- EPA's **new source performance standards** (NSPS) must be as stringent as the **best controlled similar unit**
 - This is known as the maximum available control technology (**MACT**) floor
- Standards are effective **6 months** after promulgation



Congress
Clean Air Act



EPA
Sets performance standards for new sources



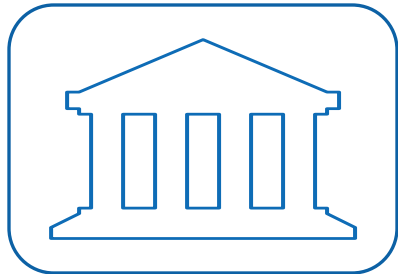
States
Issue state permits



Emissions Reductions

Existing Sources

- Emission guidelines for **existing sources** must be as stringent as the average emission limitation achieved by the **best performing 12 percent of units in the category**
 - This is known as the **MACT floor**
- Existing sources must achieve compliance no later than **5 years** after promulgation of emission guidelines, or **3 years** after the state plans are approved, whichever is earlier



Congress
Clean Air Act
Section



EPA
Sets emission
guidelines



States
Develop state
plans to submit to
EPA



EPA
Reviews and approves
state plans or issues a
federal plan



**Emissions
Reductions**

1995

- EPA adopted NSPS and Emission Guidelines for LMWC units

2000

- NSPS and Emission Guidelines fully implemented, including installation of control technologies

2006

- EPA promulgated the 5-year technology review, minor adjustments to several limits

Rule History

Typical LMWC Control Technology Configurations

Fabric filters

Electrostatic precipitators

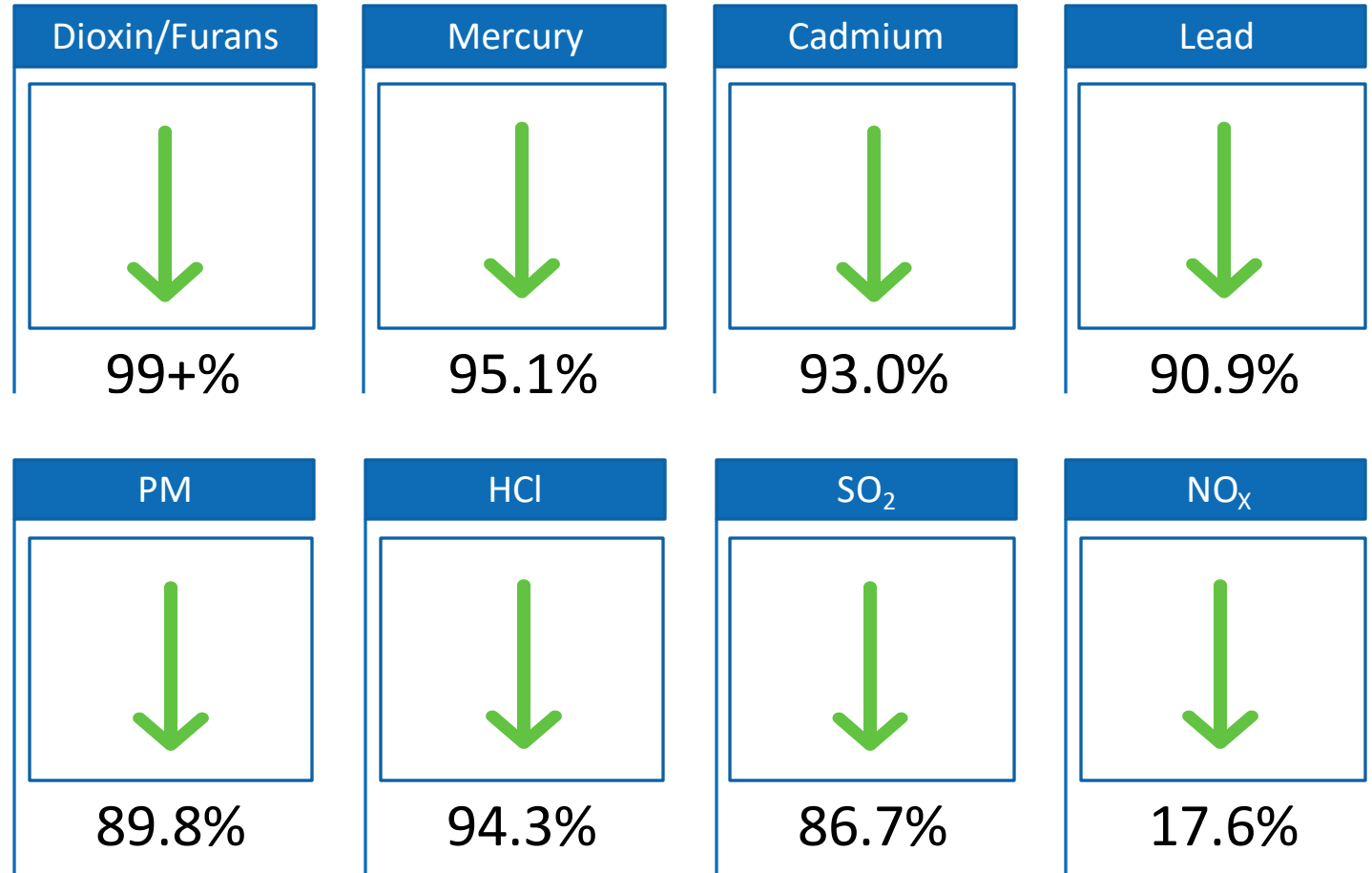
Spray dryers

Activated carbon injection

Selective non-catalytic reduction

LMWC Emission Reductions

Percent Reduction from
1990 to 2000





Facility and Proximity Information

Geographic Distribution of LMWC Facilities

- EPA's current facility list includes 152 units located at 57 facilities, operating in 18 states
 - Facility counts by state: Florida (10), New York (7), Pennsylvania (6), Massachusetts (5), Connecticut (4), New Jersey (4), Minnesota (3), Virginia (3), California (2), Maine (2), Maryland (2)
 - One facility in each of the following states: Alabama, Hawaii, Indiana, Michigan, New Hampshire, Oklahoma, Oregon, Washington, Wisconsin



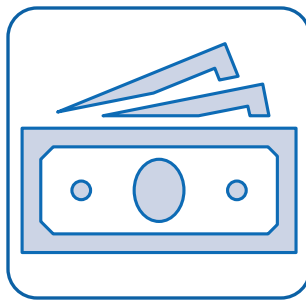
Additional LMWC Facility Information



Most facilities are located in urban areas with significant population exposure and environmental justice concerns



22 facilities are owned by state or municipal governments



EPA does not expect a significant economic impact on a substantial number of small entities for this action

Preliminary List of State or Municipal- Owned Facilities

State	Facility
Alabama	Covanta Huntsville, Inc.
California	Long Beach City, SERRF Project
Connecticut	Wheelabrator Lisbon, Inc. (WM)
Florida	Miami-Dade County Department of Solid Waste Management
	Renewable Energy Facility #1
	Pasco County
	Hillsborough City Resource Recovery Facility
	McKay Bay Refuse-to-Energy Facility
	Pinellas County Utilities Administration
	Lee County Department of Solid Waste Management
	Palm Beach Renewable Energy Facility #2
Hawaii	H-POWER
Maryland	Montgomery County Resource Recovery Facility
Maine	Ecomaine – Portland
Michigan	Kent County Waste to Energy Facility
Minnesota	Covanta Hennepin Energy Resource Co., LLC
New Jersey	Union County Resource Recovery Facility
New York	Onondaga County Resource Recovery Facility
Pennsylvania	HBG Resource Recovery FAC/HBG
	York County Resource Recovery Center
	Lancaster County Resource Recovery Facility
Washington	Waste To Energy



Upcoming Rulemaking

Elements of Rulemaking



Reevaluation
of MACT floors

Technology
Review



Other Issues

Reevaluation of MACT Floors

- EPA must **reevaluate** the numerical emission limits (MACT floors) for new and existing facilities
- EPA **cannot consider cost** in setting the MACT floor
- MACT floors for nine pollutants were reevaluated using post-compliance data from LMWC units operating in 1990
- Standards will likely be more stringent and may result in adjustments to existing control technologies as well as installation of additional control technologies:

Particulate Matter	• Fabric filter retrofit or upgraded filters (bags)
Mercury and Dioxin/Furans	• Activated carbon injection retrofit or increased carbon injection
Acid Gases	• Increased lime injection (no new equipment)
NO _x	• Add selective non-catalytic reduction (SNCR), retrofit with Advanced SNCR, or other low NO _x technology
CO	• Good combustion practices (no new equipment)

Technology Review

- Per statutory requirements, EPA must complete a 5-year review to identify any **advances in processes, practices, and technologies** that facilities could implement to achieve greater emission reduction
- EPA **may consider cost** in evaluating new technologies
- Could require greater or different use of existing control technologies as well as installation of additional control technologies:

Particulate Matter

- Fabric filter retrofit, upgraded fabric filter, or upgraded filters (bags)

Mercury and Dioxin/Furans

- Activated carbon injection retrofit, increased carbon injection, or both

Acid Gases

- Increased lime injection or circulating fluidized bed scrubber retrofit

NO_x

- Add ASNCR, retrofit with ASCNR, or other low NO_x technology

CO

- Good combustion practices (no new equipment)

Potential Costs

- Costs will depend on the current control technologies installed at the facility
- Costs may not be uniform across all LMWC units
- Costs will also depend on whether EPA decides to increase the stringency of the regulation beyond what is required based on the MACT floor reevaluation

Pollutant Grouping	Option 1			Option 2			Option 3		
	Total Capital Cost (\$)	Total Annual Cost (\$/yr)	Associated Emission Reductions ^a	Total Capital Cost (\$)	Total Annual Cost (\$/yr)	Associated Emission Reductions ^a	Total Capital Cost (\$)	Total Annual Cost (\$/yr)	Associated Emission Reductions ^a
Particulates (PM, Cd, Pb)	\$8,825,609	\$1,666,341	19.4	\$8,825,609	\$1,666,341	19.4	\$66,223,918	\$8,462,428	46.7
Mercury	\$0	\$1,400,458	19.3	\$0	\$1,400,458	19.3	\$13,364,522	\$6,454,185	115.7
Dioxins/Furans	\$0	\$11,765,702	38.1	\$0	\$11,765,702	38.1	\$21,698,028	\$31,335,027	124.6
Acid Gases (HCl, SO ₂)	\$0	\$4,568,736	945	\$0	\$4,568,736	945	\$415,038,613	\$143,181,810	1,852
Nitrogen Oxides	\$31,239,276	\$6,651,461	1,505	\$144,708,681	\$33,056,532	6,086	\$144,708,681	\$33,056,532	6,086
Carbon Monoxide	-	-	-	-	-	-	-	-	-
Overall	\$40,064,885	\$26,052,699	2,470	\$153,534,289	\$52,457,770	7,050	\$661,033,761	\$222,489,982	7,984

^a Associated emission reductions in tpy for all pollutants, except mercury (lb/yr) and dioxins/furans (g/yr).

Potential Costs for Facilities Owned/Operated by Municipalities

Table provides *preliminary* cost estimates for potential options EPA may propose in this rulemaking, but options and costs also may change as EPA continues the pre-proposal rulemaking process

Other Issues in Current Standards

- Requirements for startup, shutdown, and malfunction periods
- Potential technical corrections and clarifications from implementation
- Clarify Title V permitting requirement for air curtain incinerators burning wood wastes, yard wastes, and clean lumber



Discussion

Questions

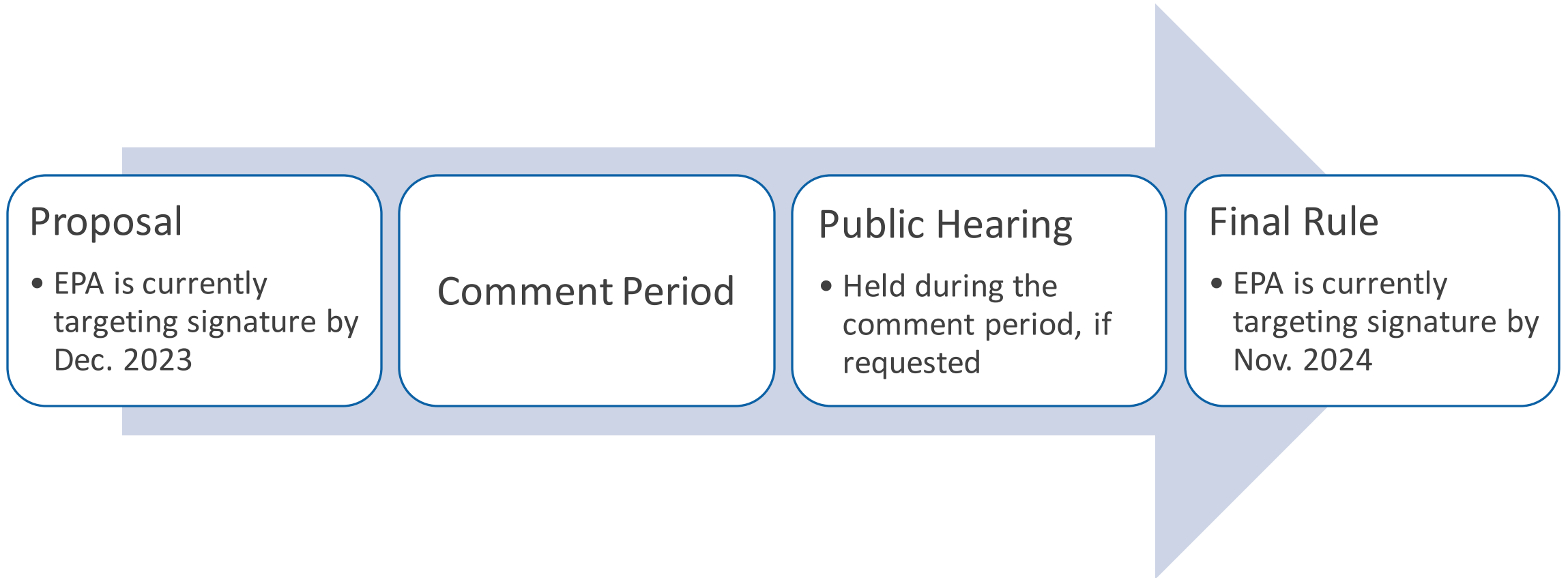
- Do you have any additional information or concerns you would like to share with EPA?
- EPA specifically would appreciate any information and data that state and local governments could provide in the following areas:
 - Is EPA's list of state and municipal-owned facilities accurate?
 - Have there been any facility closures or are any planned in the next 3-5 years?
 - Have there been any significant upgrades in control technologies at facilities?
 - What size communities do LMWC units collect waste from?
 - How would state or local governments handle municipal solid waste if it was not combusted in a LMWC unit (i.e., what alternatives exist)?



Process

Next Steps

- After the meeting, please **forward the briefing information and materials** to your members and invite them to **develop and submit comments** to the Agency
 - Please submit comments by May 15, 2023, at regulations.gov to Docket ID No. EPA-HQ-OAR-2022-0920:
<https://www.regulations.gov/docket/EPA-HQ-OAR-2022-0920/document>
- EPA is also seeking input from **other key stakeholders and entities** through pre-proposal outreach



Rulemaking Process

For More Information on LMWCs



[EPA's LMWC Web Page](#)



[42 U.S. Code § 7429 - Solid waste combustion](#)

Contacts

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related to
the
rulemaking

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