

# OTC SAS Committee Update

## OTC/MANEVU Stakeholders Meeting

### October 2, 2024

## Stationary and Area Sources Committee

Chair, Frank Steitz, New Jersey DEP



# OZONE TRANSPORT COMMISSION

# Presentation Overview

## **SAS 2024 Charge**

- ✓ Assessing Source Emissions Inventory
- ✓ Provide Technical Support on Individual Sectors
- ✓ Cross-Committee Collaboration
- ✓ EPA Office of Air Quality Planning and Standards (OAQPS) Engagement

## **Additional Focus Areas**

- ✓ Employ available emission inventory estimates to research and analyze additional strategies that reduce stationary and area source emissions in a cost-effective manner.

# Assess Source Emissions Inventory

## Update:

- The SAS Committee formed an EGU natural gas and fuel oil turbine workgroup.
- The workgroup's workplan includes:
  - Develop an inventory of natural gas and fuel oil turbines in the OTR and outside the OTR;
  - Review the literature on control measures for the sector;
  - Estimate additional emissions reductions that can be achieved with further controls;
  - Make recommendations to the SAS Committee on further controls.
- The workgroup met in August and September to work on the inventory.
- The SAS Committee formed a <5 mmBtu/hr heat pump application workgroup.
  - The workgroup will explore options for the replacement of boilers less than or equal to 5 million Btu/hr with heat pumps.

# Assess Source Emissions Inventory (continued)

## **Update on the EGU natural gas and fuel oil turbine workgroup:**

- The workgroup is looking at SCC codes to evaluate the NEI inventory.
- The workgroup is also considering developing a cross walk between the NEI and the EIA data.
- Last, the group has pulled some permit data to understand how NEI characterizes turbines.
- Discrepancies exist in the NEI data on boiler characteristics and we are working on an approach to resolve that.

# Technical Support on Sectors:

## Update on heat pump applications for <5 mmBtu/hour:

- OTC has developed a preliminary inventory of boilers that could be a starting point for the workgroup.
- The workgroup is also reviewing the literature for additional information.

State	Permit No.	Facility	Description_ID	Design Capacity_ MMBtu/hr	Fuel Type	SCC	SCC Sector	SCC Fuel
ME	A-000051	MCI INTERNATIONAL LLC	BOILER #1	2.6	Distillate Oil	10300501	Commercial/Institutional: Boilers	Distillate Oil
ME	A-000051	MCI INTERNATIONAL LLC	BOILER #2	2.6	Distillate Oil	10300501	Commercial/Institutional: Boilers	Distillate Oil
ME	A-000057	MAINEHEALTH	BOILER 1	5.1	Distillate Oil	10300501	Commercial/Institutional: Boilers	Distillate Oil
ME	A-000057	MAINEHEALTH	BOILER 1	5.1	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000057	MAINEHEALTH	BOILER 2	5.1	Distillate Oil	10300501	Commercial/Institutional: Boilers	Distillate Oil
ME	A-000057	MAINEHEALTH	BOILER 2	5.1	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000057	MAINEHEALTH	BOILER 3	8.4	Distillate Oil	10300501	Commercial/Institutional: Boilers	Distillate Oil
ME	A-000058	RSU #79	BOILER #1	3.3	Propane	10301002	Commercial/Institutional: Boilers	Liquified Petroleum Gas (LPG)
ME	A-000058	RSU #79	BOILER #1	3.3	Distillate Oil	10300501	Commercial/Institutional: Boilers	Distillate Oil
ME	A-000058	RSU #79	BOILER #2	3.3	Distillate Oil	10300501	Commercial/Institutional: Boilers	Distillate Oil
ME	A-000058	RSU #79	BOILER #2	3.3	Propane	10301002	Commercial/Institutional: Boilers	Liquified Petroleum Gas (LPG)
ME	A-000058	RSU #79	BOILER #3	7	Propane	10301002	Commercial/Institutional: Boilers	Liquified Petroleum Gas (LPG)
ME	A-000058	RSU #79	BOILER #3	7	Distillate Oil	10300501	Commercial/Institutional: Boilers	Distillate Oil
ME	A-000059	L. L. BEAN, INC.	LLBCorpBlr #1	4	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000059	L. L. BEAN, INC.	LLBCorpBlr #2	4	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000059	L. L. BEAN, INC.	LLBCorpBlr #3	4	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000059	L. L. BEAN, INC.	LLBCorpBlr #4	4	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000059	L. L. BEAN, INC.	LLBCorpERU #1	1.2	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000059	L. L. BEAN, INC.	LLBCorpERU #2	1.2	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000059	L. L. BEAN, INC.	LLBCorpERU #3	1.2	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000059	L. L. BEAN, INC.	LLBCorpERU #4	1.2	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas
ME	A-000059	L. L. BEAN, INC.	LLBCorpERU #5	1.2	Natural Gas	10300603	Commercial/Institutional: Boilers	Natural Gas

# Technical Support on Sectors: Heat Pump Water Heaters

- Water heater report was finalized and posted.
- Provides equipment, installation, and operating cost comparison for:
  - Heat pump vs. oil, methane, propane, and electric resistance water heaters.
- A spreadsheet calculator was developed that incorporates utility, labor, and other state-specific data.

Legend	Cell Inputs	Cell Outputs	Assumptions	Password to unprotect sheet: ES				
	State	Electric Utility Size	Natural Gas Utility Size	Tin (F)	Electricity	Natural Gas	Propane (\$/therm)	Fuel Oil (\$/therm)
State Data	MD	Largest Utility	Largest Utility	61.9	\$ 0.12	\$ 1.57	\$ 3.75	\$ 3.58
	Fuel	Type	Draw Pattern	Efficiency Level	UEF			
Baseline	Natural_Gas	Storage_WH	Medium	0	0.58			
Measure	Electric	240V_HPWH	Medium	2	3.35			

  

Constants	
lbs/Gal	8.33
kWh/MMBTU	293.07
Therms/MMBTL	10
Gallons/Year	16607.5
HPWH EUL (yrs)	10
Tout	125

# Technical Support on Sectors: Heat Pump Space Heaters

- A joint OTC/NESCAUM report was drafted to quantify costs of transitioning from inefficient and fossil fuel-fired space heaters to heat pumps.
- Provides equipment, installation, and operating cost comparison for:
  - Heat pump vs. oil, methane, propane, and electric resistance space heaters.
  - Spreadsheet calculator like the water heater spreadsheet has been developed.
  - Report was reviewed by the SAS Committee.
  - Final version will be posted this fall.

## Heat Pumps in the Northeast and Mid-Atlantic: Costs and Market Trends



# Cross Committee Collaboration

## Update/Next Steps:

- Coordinating with Modeling Committee on:
  - ICI wood boiler screening modeling.
  - Modeling for residential building electrification.
    - Lower emissions due to reduced fossil fuel combustion were estimated.
    - A small increase in electricity generating emissions associated with more electricity demand was also evaluated.
  - EGU natural gas and fuel oil turbine information will be shared with the Modeling Committee when available.
  - Heat pump applications <5 mmBtu/hr information will be shared with the Modeling Committee when that is available.



# Office of Air Quality Planning and Standards (OAQPS) Engagement



## Update:

- Held a call in May with EPA OAQPS to discuss:
  - The RACT and Control Measures Tool and RACT cost analysis.
  - Residential building electrification report/analysis.
  - Heat pump water heater cost analysis:
    - Spreadsheet to calculate costs for individual states.
    - Report detailing equipment, installation, and operating costs.
  - Recommendations for improved VOC EFs for NG boilers with ULNB.
- Held a follow up call in June with OAQPS to discuss the RACT tool and RACT cost effectiveness analysis in more detail.

## Update:

- Planning an October 7<sup>th</sup> meeting with OAQPS on buildings policies:
  - MDE, SCAQMD, and BAAQMD will present on zero emission water and space heating standards.
  - NESCAUM/OTC will present on technical and cost analyses.
  - MA will present on Clean Heat Standard.
  - The purpose is to provide information to EPA on state regulatory strategies to reduce building-related NOx emissions.

# Other: OTC Model Rules

## Update:

- Posted the consumer products model rule edits (based on stakeholder feedback):
  - Administrative and formatting updates: added dates, cleaned up rules, and re-posted CP Phase I, II, III, and IV.
  - Clarified that “Sealant or Caulking Compound” does not include pipe thread sealants or pipe joint compounds.
- Posted the adhesives model rule edits:
  - Clarified that compliance for low solids adhesives is demonstrated utilizing a different formula than other adhesives.
- Discussed the Consumer Product Phase V model rule with Colorado.
  - Colorado has adopted the rule as a contingency measure for a 2027 ozone attainment date.

**Thank You!**

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