

OTC SAS Committee Update
OTC/MANEVU Commissioners' Annual Meeting
June 13, 2024

Stationary and Area Sources Committee
Chair, Francis Steitz, New Jersey DEP



OZONE TRANSPORT COMMISSION

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Presentation Overview

SAS 2023 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.

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Assess Source Emissions Inventory

Update:

- Analysis of VOC EFs for NG boilers with Ultra Low NOx Burner (ULNB):
 - RACT/BACT/LAER Clearinghouse indicates that VOC EFs for NG boilers with ULNB may be lower than those in AP42.
 - Less variation in RACT/BACT/LAER Clearinghouse data compared to AP42.
 - Discussed with the OTC directors: As opportunity presents, discuss with EPA that they review AP42 VOC EFs for NG boilers.
- Will continue to evaluate other EFs for potential improvements for sectors with significant NOx emissions.

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Technical Support on Sectors: ICI Wood Boiler Inventory

Update:

- The SAS Committee and the Modeling Committee are discussing modeling of ICI wood boilers.
 - Many of the facilities were not identified on a source-by-source basis but are likely indirectly included in the area source category of the modeling inventory.
 - Workgroup investigating if facilities can be sufficiently accounted for in the area source category of the modeling inventory.

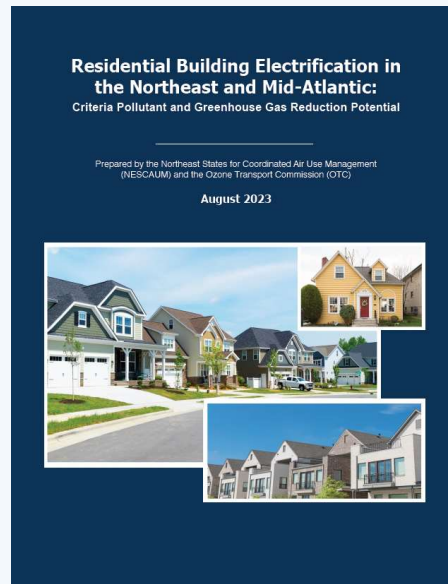


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Technical Support on Sectors: Residential Buildings

- Final report on residential building efficient electrification posted on the OTC website.
- Results are provided for three electrification scenarios:
 - Water heating
 - Space heating
 - Whole home electrification



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Whole Home Electrification Scenario – Potential NOx Reductions in the OTR

- Assumes all residential buildings/units converted to electric.
- Estimated annual and ozone season NOx reductions shown.
- Uses current grid emissions for “net” case.
 - a cleaner grid scenario is also presented in the report

	On-site NOx (Tons Reduced)	Net-Current Grid NOx (Tons Reduced)	Ozone Season NOx (Tons Reduced)
OTR	108,326	103,087	16,249

Thanks to MARAMA for estimating ozone season NOx for the residential fuel combustion inventory in the NEI

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Technical Support on Sectors: Heat Pump Water Heaters

- OTC/NESCAUM drafted a report that quantifies costs of transitioning from inefficient and fossil fuel-fired water heaters to heat pumps.
- Provides equipment, installation, and operating cost comparison for:
 - Heat pump vs. oil, methane, propane, and electric resistance water heaters.

Heat Pump Water Heaters in the Northeast and Mid-Atlantic: Costs and Market Trends



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Heat Pump Water Heaters (Continued)

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	Fuel Oil
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/MMBTU	10
Gallons/Year	16607.5
HPWH EUL (yrs)	10
Tout	125

- Spreadsheet calculator available that incorporates utility, labor, and other state-specific data.
- SAS Committee has reviewed the draft report and provided comments.
- OTC/NESCAUM finalizing report; plan to post this summer.
- Study will be followed by a similar analysis for space heating.

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Cross Committee Collaboration

Update/Next Steps:

- Coordinated with Modeling Committee on:
 - Modeling ICI wood boilers, including identification of SCCs.
 - Modeling for residential building electrification: lower emissions due to reduced fossil fuel combustion, but must account for a small increase in electricity generating emissions associated with more electricity demand.



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Office of Air Quality Planning and Standards (OAQPS) Engagement



Air Quality Planning and Standards

Update:

- Held two calls with EPA OAQPS to discuss:
 - The RACT and Control Measures Tool and RACT cost analysis.
 - Residential building electrification report/analysis:
 - Water heating, space heating, and whole home electrification-related NOx reductions.
 - 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.
 - OTC SAS will continue to share committee work products with OAQPS.

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Other: MWC NSPS and Emission Guidelines

- EPA proposed to update the large MWC NSPS and emission guidelines.
 - Existing facilities: NO_x emissions limit of 110 ppmvd (24-hour average) identical to the OTC MWC report (but did not include OTC's recommended 30-day NO_x standard).
 - New facilities: NO_x emission limit of 50 ppmvd (24-hour average) based on SCR installation.
- SAS Committee submitted comments in support of the proposal on March 25th.
 - Commented on five items for which EPA requested input.
 - Included OTC MWC report as an attachment.

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Other: Updates to OTC Model Rules

Update:

- Consumer 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.
- Adhesives model rule edits:
 - Clarified that compliance for low solids adhesives is demonstrated utilizing a different formula than other adhesives.

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Thank You!

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