



# ENERGY STAR<sup>®</sup> Version 3.0 Room Air Cleaners Draft 1 Specification

Stakeholder Webinar - October 2, 2024

# Introductions

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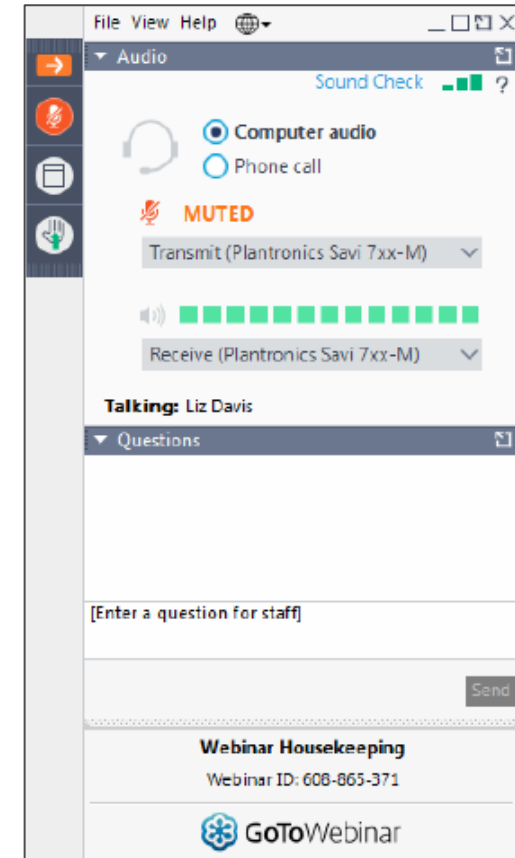
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# Using GoTo Webinar and Audio Controls

- Audio Provided via teleconference:
  - **United States:** +1 (213) 929-4221
  - **Access Code:** 417-717-193
  - **Webinar ID:**
- Phone lines will be muted at the start of the presentation
- Please leave your line on mute unless speaking during the call for questions
- Press \*6 to unmute your line and when you are finished with your question or comment, press \*6 to mute
- Webinar will be posted on the [Room Air Cleaner product development page](#).



# Meeting Agenda

Time	Topic
<b>1:00–1:10</b>	<b>Background</b>
1:10–2:00	<ul style="list-style-type: none"><li>- Drivers</li><li>- Market Assessment</li><li>- Scope</li><li>- Proposed IEF Levels and Pass Rates</li><li>- Savings and Payback</li></ul>
2:30–2:45	Request for Feedback
2:45–3:00	Timeline and Open Discussion

# Specification Development

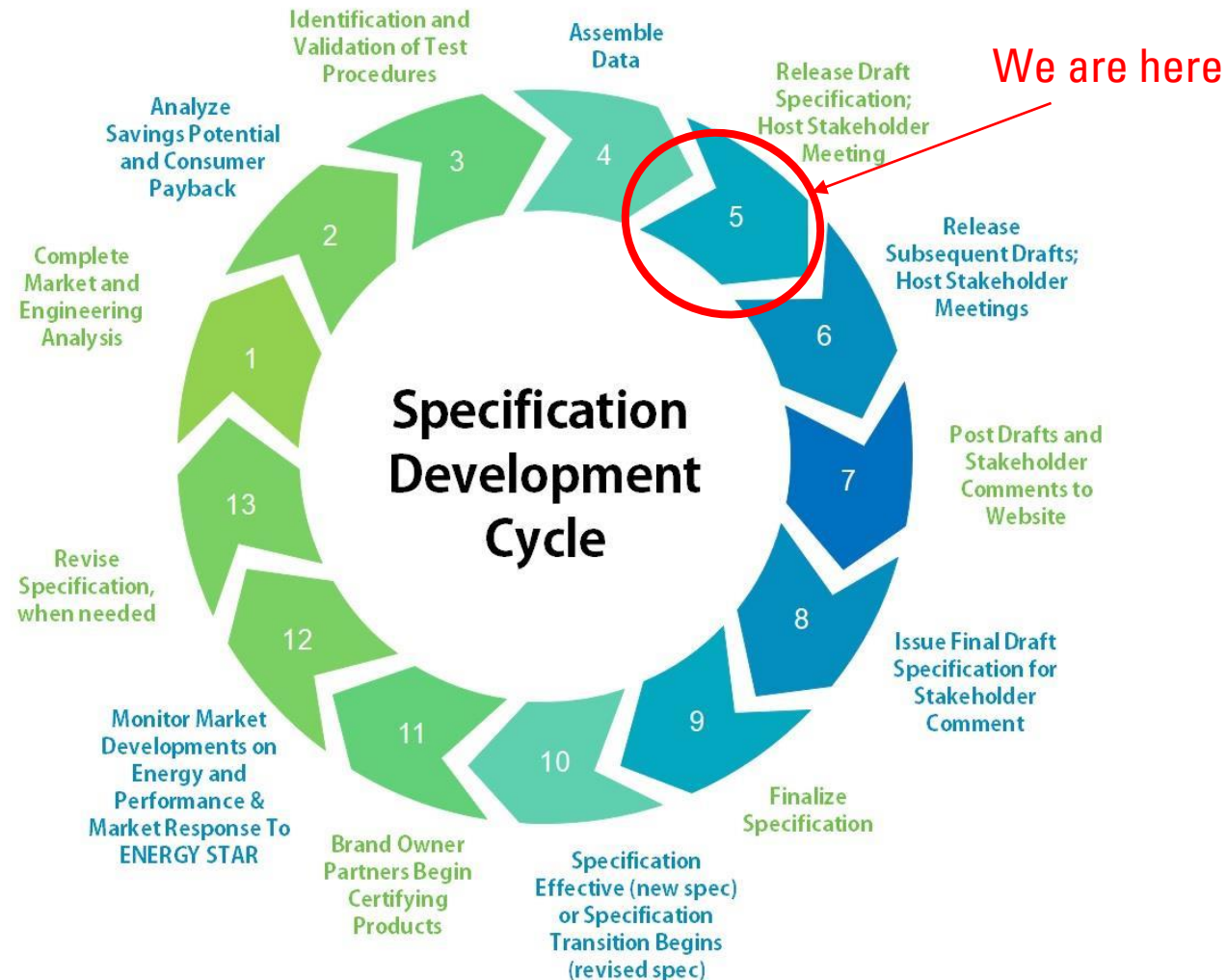
- ENERGY STAR follows [EPA's Standard Operating Procedure](#) through the specification development or revisions process, balancing:
  - The need to keep pace with evolution among leading products and continue to effectively differentiate for consumers
  - Production cycles, other factors important to the industry
- Key elements of the stakeholder process:
  - Consistency, transparency, inclusiveness, responsiveness, and clarity
  - Stakeholder engagement is a vital aspect to the success of the ENERGY STAR program

The screenshot shows the ENERGY STAR website interface. At the top left is the ENERGY STAR logo. To the right are navigation links for 'ABOUT' and 'FOR PARTNERS', and a search bar. Below the logo are links for 'Find Products', 'Save at Home', 'New Homes', 'Commercial Buildings', and 'Industrial Plants'. A breadcrumb trail reads: Home » Partner Resources » Products Partner Resources » Brand Owner Resources » Product Specification Development Efforts. The main content area is titled 'ENERGY STAR Product Specification Development Efforts'. It includes a paragraph explaining the program's history and goals, and a call to action for non-partners to email [energystarproducts@energystar.gov](mailto:energystarproducts@energystar.gov). To the right of the main text are two sidebars: 'PLANNING' with links for Business Plan, Quarterly Update, and Product Development Contacts; and 'OTHER PRODUCT INFORMATION' with links for Product Finder, API Datasets, Unit Shipment Data, Third-Party Certification, and International Agreements. Below the main text is a section for 'Search ENERGY STAR Specifications' with an image of a hand holding a glowing 'SPECIFICATION' cube. To the left of the main content is a 'Products Partner Resources' sidebar with a list of links including 'Brand Owner Resources', 'Partner Commitments', 'Associating the Label with Products', 'Promoting Your Certified Products', 'Product Specification Development Efforts', 'How Specifications are Developed', 'Product Development & Marketing Contacts', 'Certifying Products', 'Verification Testing of Products', and 'Unit Shipment Data'. At the bottom left of the sidebar is 'Products Partner Announcements'.

[https://www.energystar.gov/partner\\_resources/brand\\_owner\\_resources/product\\_specification\\_development\\_process](https://www.energystar.gov/partner_resources/brand_owner_resources/product_specification_development_process)



# Specification Development Cycle



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# Background and Drivers

## Background:

- The Room Air Cleaners Version 2.0 specification became effective July 17, 2020
  - Scope: Products that meet the definition of a Room Air Cleaner are eligible for ENERGY STAR qualification, with the exception of products that are covered under other ENERGY STAR product specifications, combination products and ozone generators. Certified air cleaner models shall produce a minimum 30 CADR for Smoke to be considered under this specification.

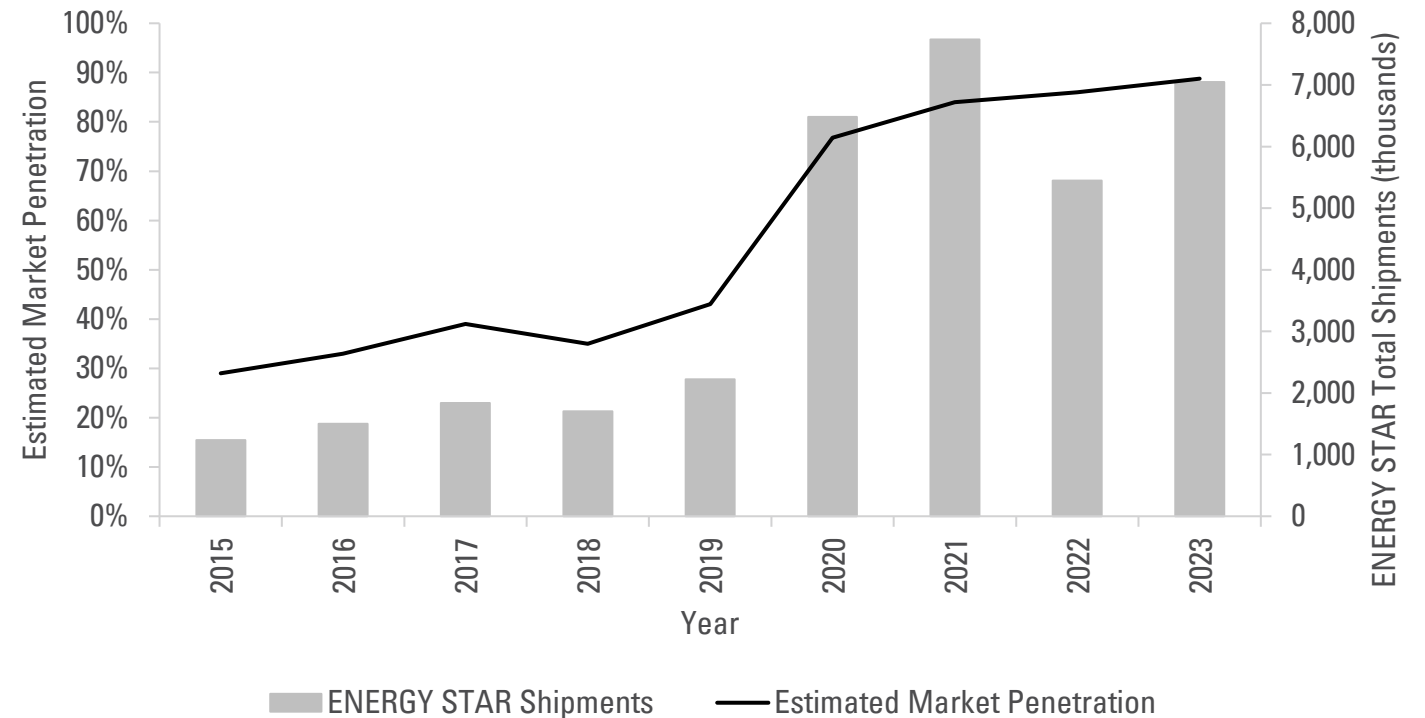
## Rationale:

- Update to reference the new DOE test procedure and metrics
- The ENERGY STAR Market Share was 89% in 2023
- There is differentiation in efficiency of certified models. This presents an opportunity for the ENERGY STAR program to deliver additional energy savings and improve the consumer value the label provides.
- Tremendous growth in shipments over the past few years due to COVID and wildfires



# ENERGY STAR Market Share

The figure to the right shows that ENERGY STAR Room Air Cleaner Shipments are around 7,000,000 a year and in general have been increasing yearly in the past five years.



# Scope

- Included Products
  - Products that meet the definition of a room air cleaner are eligible for ENERGY STAR certification under this specification, with the exception of products listed below. Certified room air cleaner models shall have a Smoke CADR and a Dust CADR between 30 to 600 cubic feet per minute (cfm), inclusive, to be eligible under this specification
- Excluded Products
  - Products that are covered under other ENERGY STAR product specifications are not eligible for certification under this specification. The list of specifications currently in effect can be found at [www.energystar.gov/specifications](http://www.energystar.gov/specifications).
  - Ozone Generators
  - Combination Products
    - The EPA is interested in feedback on potentially allowing some combination products within scope. The EPA is interested if there are certain combination products that the EPA should consider allowing within scope.



# Crosswalk

- EPA proposes to revise the metrics from Smoke CADR to PM<sub>2.5</sub> CADR and Smoke CADR/Watt to IEF since the new DOE Standard and test procedure use PM<sub>2.5</sub> CADR and IEF
- Changing the metric to align with DOE will avoid confusion and reduce burden for manufacturers
- The EPA followed the DOE method for calculating IEF :
  - The PM<sub>2.5</sub> CADR was calculated based on the Smoke CADR and Dust CADR. The IEF was calculated using the PM<sub>2.5</sub> CADR and the Annual Energy Consumption (AEC).
  - Please see the DOE Test Procedure for Air Cleaners; Final Rule (<https://www.regulations.gov/document/EERE-2021-BT-TP-0036-0036>) for details on these equations.

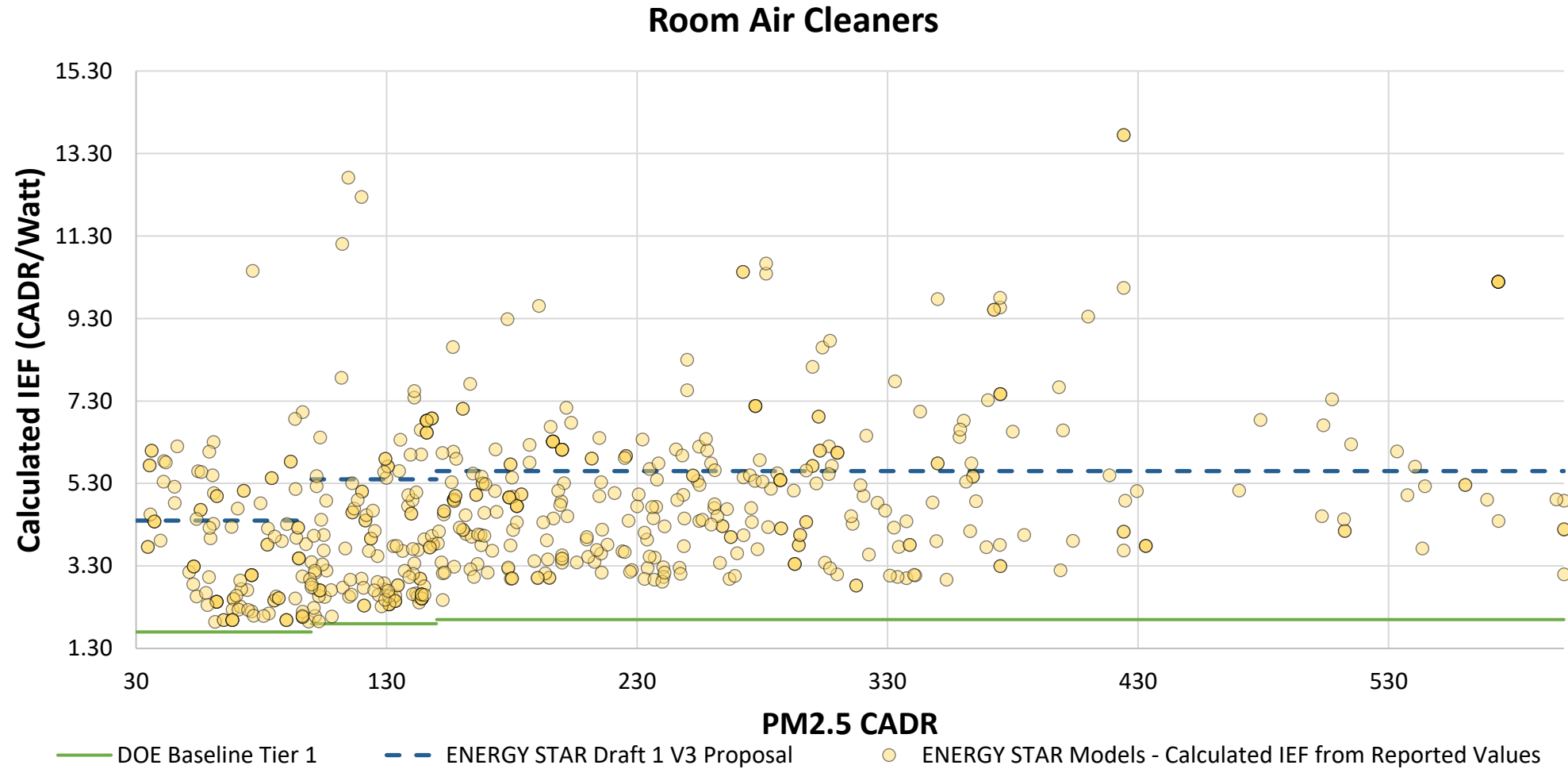
# IEF Levels

Product Category	Current DOE Standards – IEF	Version 2.0 – Smoke CADR/Watt	Draft 1 Version 3.0 – IEF
$30 \leq \text{PM}_{2.5} \text{ CADR} < 100$	1.70	1.90	4.40
$100 \leq \text{PM}_{2.5} \text{ CADR} < 150$	1.90	2.40	5.40
$150 \leq \text{PM}_{2.5} \text{ CADR}$	2.00	2.90	5.60

# Product Availability and Pass Rate

Product Category	# of ENERGY STAR Models in QPL	# of Models in AHAM & QPL Combined Dataset	# of Models Meeting ENERGY STAR Draft 1 V3.0	% of Models Meeting ENERGY STAR Draft 1 V3.0
$30 \leq \text{PM}_{2.5} \text{ CADR} < 100$	98	121	31	25.6%
$100 \leq \text{PM}_{2.5} \text{ CADR} < 150$	121	150	23	15.3%
$150 \leq \text{PM}_{2.5} \text{ CADR}$	326	363	101	27.8%

# Room Air Cleaners Product Availability



# Payback

Product Category	Level Description	IEF	Purchase Price (\$)	Average Annual Energy Consumption Cost (\$)	Average Payback (yrs)
30 ≤ PM <sub>2.5</sub> CADR < 100	Current DOE Standard	1.70	\$117	\$36	0.0
	Draft 1 Version 3.0	4.40	\$117	\$14	
100 ≤ PM <sub>2.5</sub> CADR < 150	Current DOE Standard	1.90	\$117	\$58	2.0
	Draft 1 Version 3.0	5.40	\$193	\$20	
150 ≤ PM <sub>2.5</sub> CADR	Current DOE Standard	2.00	\$343	\$119	0.7
	Draft 1 Version 3.0	5.60	\$398	\$43	



# Savings

	ENERGY STAR Draft 1 Version 3.0 (compared to current DOE)		
Product Category	Annual Electrical Savings (kWh)	Annual CO2 Savings (lbs)	Annual Monetary Savings (\$)
$30 \leq \text{PM}_{2.5} \text{ CADR} < 100$	147	226	\$21
$100 \leq \text{PM}_{2.5} \text{ CADR} < 150$	256	394	\$37
$150 \leq \text{PM}_{2.5} \text{ CADR}$	524	807	\$76



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# Webinar Wrap-up and Comment Deadline

- EPA appreciates the opportunity to discuss the Draft 1 with stakeholders today
- Comments are due on **October 11, 2024**
- Please send all comments to:

[appliances@energystar.gov](mailto:appliances@energystar.gov)

Unless commenters indicate that written feedback is confidential, all comments will be posted to the [Room Air Cleaners product development page](#).



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# Timeline

Event	Date
Draft 1 Version 3.0 Specification	September 11, 2024
<b>Draft 1 Version 3.0 Webinar</b>	<b>October 2, 2024</b>
Draft 1 Comments Due	October 11, 2024
<i>Release Draft 2 of Specification*</i>	<i>October 2024</i>
<i>Publish Final Draft Version 3.0 Specification</i>	<i>October - November 2024</i>
<i>Publish Final Version 3.0 Specification (Effective Date is 9 months after the published date)</i>	<i>November - December 2024</i>

*\* If needed*



# Open Discussion



Thank you!