

# Results of Invitation to Participate: Air Filter Labeling

2013 Appliance Efficiency Rulemaking  
California Energy Commission

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# Agenda

- ❑ Purpose
- ❑ Information Requested
- ❑ Responses
  - ❑ Objectives
  - ❑ Location
  - ❑ Current labels
  - ❑ Costs
  - ❑ Market Characteristics
- ❑ Next Steps



# Purpose

- ❑ The Commission is gathering information to determine how to proceed with products listed in Phase 1 of the OIR.
- ❑ The ITP is an opportunity for stakeholders to inform the Commission's policy, direction, and process.
- ❑ ITP requests product, market, and other relevant information.
- ❑ During this session, we will discuss the results of the ITP for Air Filter Labeling.



# Information Requested

- ❑ Product Definition & Scope
- ❑ MERV Rating
- ❑ Costs
- ❑ Barriers to Labeling
- ❑ Benefits of Labeling
- ❑ Market Characteristics & Growth Rate
- ❑ Label Characteristics
  - ❑ Placement
  - ❑ MERV
  - ❑ Other?
- ❑ Air filter impacts on HVAC performance
- ❑ Small business impacts



# Responses

Responses addressing the information requested:

- ❑ California Investor-owned Utilities
- ❑ Natural Resources Defense Council
- ❑ Proctor Engineering
- ❑ 3M



# Objectives of Labeling

## Consumer & Contractor Education

- ❑ Identify appropriate filter for HVAC equipment
  - ❑ Balance of filter air flow resistance with a reduction in fine/coarse particulates
- ❑ Improve long-term health & energy efficiency of HVAC equipment
- ❑ Facilitate compliance with Title 24 regulations
- ❑ Level playing field for comparing air filter products



# Label Location

Label location should be consistent & easy to find.

Location ideas mentioned:

- ❑ Affixed to the air filter itself
- ❑ Front of product packaging
- ❑ Back of product packaging
- ❑ Printed on the insert or plastic bag



# Current Labels

## Minimum Efficiency Reporting Value (MERV) rating

- Relates to particle efficiency, filter's ability to remove particles from the air.
- Does not capture energy efficiency, which is addressed in the measurement of pressure drop (or resistance).

## Microparticle Performance Rating (MPR)

- Exclusive to 3M™ air filters

## Filter Performance Rating (FPR)

- Exclusive to air filters sold at The Home Depot™



# Current Labels

Market survey results:

- 28% no label
- 25% only MPR
- 22% only MERV
- 12.5% both FPR and MERV
- 9.5% both FPR and MPR
- 3% only FPR

2012 survey conducted by California IOUs in Northern California.



# Current Labels

## AHRI 680 Standard Rating

- Initial resistance (pressure drop) across airflow rates
- Final resistance
- Dust holding capacity
- Particle size efficiency across particle size types

Table 1. Example of Format for Published Rating

AHRI 680 Standard Rating						
Airflow Rate (CFM)	Initial Resistance ("wc)	Final Resistance** ("wc)	Dust Holding Capacity** (g)	Particle Size Efficiency** (0.30 - 1.0 μm)%	Particle Size Efficiency** (1.0 - 3.0 μm)%	Particle Size Efficiency** (3.0 - 10 μm)%
400	0.05					
800	0.10					
1200	0.17					
1600	0.25					
2000*	0.32					
		0.50	45	17	53	87

\* Maximum Rated Airflow Rate as published by the manufacturer.  
 \*\* Standard Rating requires that these shall be tested at Maximum Rated Airflow Rate as published by manufacturer.



# Current Labels

## AHRI 680 Standard Rating

- Are fine particulates adequately addressed?
- Are the particle size groupings relevant to consumers?
- Air flow rate relevance to consumers?

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# Labeling Costs

New label has an initial cost of \$2 million, which includes:

- Printing plates
- Labels
- Changes to manufacturing processes
- Costs associated with existing package scrap
- Graphics/artwork

Altering an existing label has a cost of \$500,000 annually



# Market Characteristics

Residential Appliance Saturation Survey (KEMA 2010)

- 10.2% CA households – no central AC
- 77.6% CA households – one central AC
- 9.5% CA households – two central ACs

Approximate average of one central AC per household?

Air filters changed out twice per year?



# Next Steps

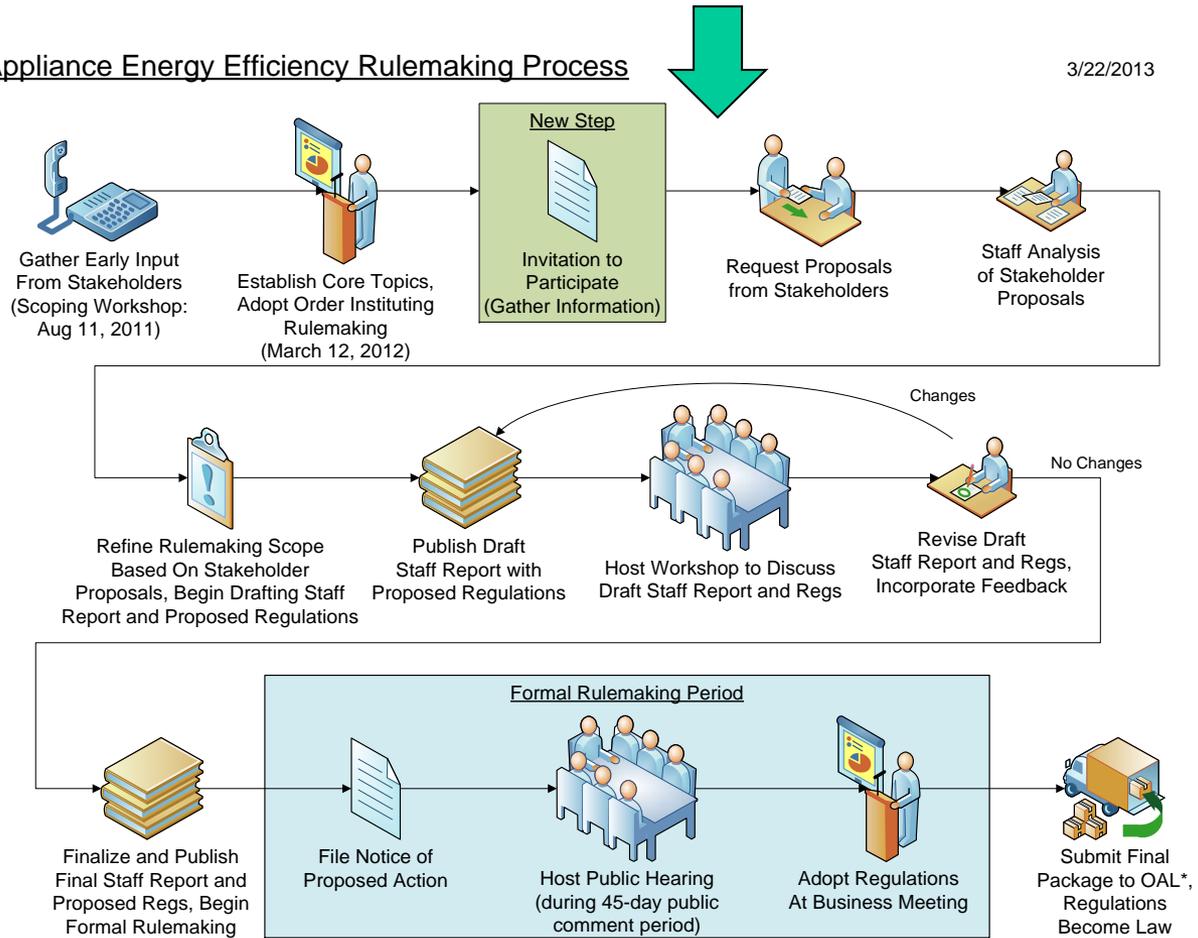
- ❑ Following the ITP workshops, the Commission will request proposals for new/updated efficiency measures.
- ❑ Interested parties may submit proposals from **June 10 to July 25, 2013.**
- ❑ Proposal template and guidance is forthcoming.
- ❑ Commission staff are available to discuss questions and concerns at anytime during the proceeding.



# Public Participation

## Appliance Energy Efficiency Rulemaking Process

3/22/2013



\*Office of Administrative Law



# Discussion & Comments

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Air Filter Labeling Docket #12-AAER-2E

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