



Structured Discussion ENERGY STAR CAC/ASHP Equipment Specification and Quality Installation

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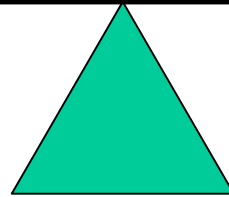
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The Next Frontier for HVAC



Tighten
Technical
Specs

Address
Quality
Installation



How do we capture significant energy savings, provide value to market actors, and keep program delivery manageable?

Capturing Energy Savings



	Savings Range/Average
14 SEER	7%
Sizing*	2-10%
Refrigerant charge*	12.5%
Airflow*	8.1%
Duct Leakage*	16.8%

What is the most cost-effective combination of options for most homes? Can they be implemented effectively?

Defining Value



Manufacturer

- Differentiation of products
- Brand & consumer loyalty
- Sales/profit

Contractor

- Differentiated services
- Sales/profit
- Consumer loyalty
- Reduced call backs
- Referrals

Consumer

- Energy/\$ savings
- Good investment
- Reliability/durability
- Comfort

EPA

- Energy/carbon savings
- Cost effective for consumer
- Reasonable program admin.
- Brand loyalty

EEPS

- Peak savings
- Sustained/quantified savings
- Reasonable admin.
- Cost-effective programs
- Satisfied customers

Equipment Specification Options



	Current		From Strawman	
	Split	Packaged	Split	Packaged
SEER	13	12	14	14
EER	11	10.5	12	11
HSPF	8	7.6	8.5	8

Do we Need an Equipment Spec?



- **YES** – We can still capture some energy savings, address peak, include some other useful criteria, and provide a platform for marketing.
 - What is value to consumers?
 - Will it stay true to the ENERGY STAR brand promise?
- **NO** – We don't need it anymore. SEER 14 isn't cost effective for enough consumers. Installation should be the focus.
 - What would we lose?
 - What is impact on manufacturers, contractors, utilities?

Options for an Equipment Spec



- Option I - Increase to **SEER 14**
 - Is this cost effective? Where?
 - Do EEPS have data on cost effectiveness?
 - What is value to manufacturers? contractors?
- Option II – Keep **SEER 13** but increase EER and HSPF
 - Peak value to utilities is maintained
 - Any value to manufacturers? contractors?
 - Relevance to consumers?

What About Additional Elements?



- Evaporator access for purposes of measurement and maintenance
- TXV for sustained performance
- On-board diagnostics

What are the challenges with each?

What is the value of each?

Promoting Quality Installation



- What is the Value?
 - for Consumers (Will they ask for it?)
 - for Contractors (Will they sell it?)
 - for Manufacturers (Will they support/train?)
 - for EEPS (Will they promote/subsidize?)

Is there enough value for enough players to motivate the necessary actions?

Building a Market Infrastructure



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Contractor Accreditation or
Third-Party Verification

Installation by Certified Technicians

ENERGY STAR Installation Guidelines

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Installation Guidelines



- Design/proper sizing
- Refrigerant charge
- Airflow
- Ducts
- Collection/analysis of performance data
- Commissioning report for the owner

Are these the correct parameters?

Is there agreement on how to measure them?

What are the challenges? What is the value?

Certified Installers



- Should we specify who is qualified to do ENERGY STAR installations?
 - What are the right qualifications?
 - Who should train the technicians?
 - Who should “certify” them?
 - Who pays for the training & certification?

Verification



- How important is verification?
 - Utility perspective
 - Contractor perspective
- How soon should it be in place?
- Have we identified all possible models?
- What should be verified?
 - Sizing
 - Refrigerant
 - Air flow
 - Other?

Accreditation vs. Third Party



- Is there significant value in someone beside the contractor evaluating the installation?
- What would constitute an acceptable accreditation program for contractors?
- Could we use third parties (HERS, EEPs) as interim step to nationwide accreditation program?
- What is potential role for services like CheckMe!?

Logistics & Pesky Details



- How long to set up accreditation program(s) and accredit qualified contractors?
- What third parties could conduct verifications?
- Who pays for verification?
- What part of system installation is actually verified?
- Will contractors do the extra paperwork?
- What is time lag before consumer knows if their system qualifies/is installed properly?
 - Additional time lag if corrections needed
 - Embarrassment to contractor/technician if rejected

Data Tracking & Reporting



- Should data be collected from each installation?
- Who would collect it?
- Who would it be reported to?
- What is value to consumers?
- How do we streamline this for contractors?
- What is value to EEPS? EPA?