



ENERGY STAR[®]

Residential Clothes Dryers

Version 1.0 Specification

Certification Body Training
June 2, 2014

Webinar Details



- Webinar materials will be posted to:
 - [CB Specification Technical Assistance](#) webpage
- Audio Provided via conference call in:
 - U.S. or Canada: +1-877-423-6338
 - International: +1-571-281-2578
 - Participant Code: 316317
- Phone lines will remain open during discussion
- Please keep phone lines on mute unless speaking

Agenda



- 1** Introduction
- 2** ENERGY STAR Overview
- 3** Version 1.0 Specification Overview
 - a** Overview, Definitions, and Scope
 - b** Certification Requirements
 - c** Connected Functionality
- 4** Overview of CB Details
- 5** Open Questions & Comments

Webinar Objectives



1. Prepare certification body staff to evaluate Residential Clothes Dryers for ENERGY STAR certification
2. Describe certification requirements
3. Address any test method questions (DOE)

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- 2 **ENERGY STAR Overview**
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Specifications Development



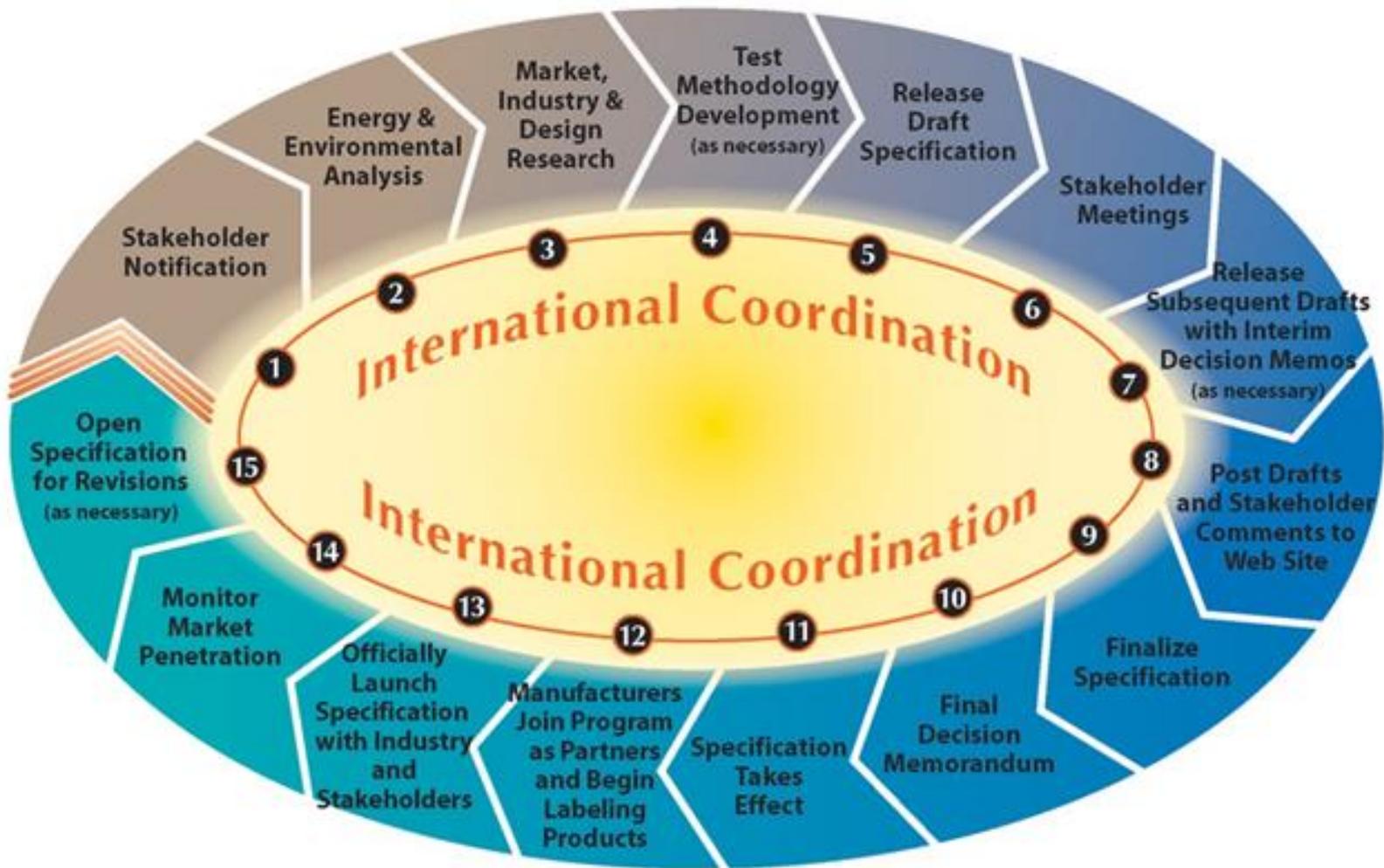
- EPA develops ENERGY STAR product specifications using a systematic process that relies on rigorous market, engineering and pollution savings analysis, and involvement from industry stakeholders.
- EPA uses a set of six key **Guiding Principles**

ENERGY STAR Guiding Principles



1. Significant energy savings
2. Product performance maintained or enhanced
3. Purchasers can recover investment in increased efficiency within a reasonable time period
4. Efficiency achieved through one or more technologies; qualifying products offered by more than one manufacturer
5. Energy consumption can be measured and verified with testing
6. Label provides meaningful differentiation

Specification Development Cycle



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Clothes Dryer Version 1.0 Specification Development



- 2012
 - July: Program Launch Letter Released
 - August: Draft 1 Version 1.0 provided for stakeholder review and comment
- 2013:
 - June: EPA awarded the first clothes dryer with the 2013 Emerging Technology Award (ETA) for Advanced Clothes Dryers
 - August: DOE published an amended test method for clothes dryers (10 CFR 430 Appendix D2)
 - August: Draft 2 Version 1.0, referencing the amended test method is released for stakeholder review and comment
 - October: EPA releases a supplemental proposal, proposing changes to the certification criteria presented in Draft 2
- 2014:
 - March: Final Draft Version 1.0 released for stakeholder review and comment
 - May: Final Version 1.0 released – effective January 1, 2015. Manufacturers may elect to certify products prior to the effective date.

Definitions

- Included definitions are identical to those contained in the Code of Federal Regulations (CFR) unless otherwise noted
 - Footnotes are provided to indicate the CFR citation and indicate discrepancies
 - When in conflict the CFR definition takes precedence
- Definitions for the following are applicable to the Version 1.0 specification:
 - Electric Clothes Dryer
 - Gas Clothes Dryer
 - Compact size Clothes Dryer
 - Standard size Clothes Dryer
 - Conventional (Vented) Clothes Dryer
 - Ventless Clothes Dryer
 - Water-Cooled Ventless Clothes Dryer
 - Commercial Clothes Dryer
 - Combination All-in-One Washer-Dryer
 - Residential Clothes Washer with Optional Dry Cycle
 - Combined Energy Factor
 - Basic Model
 - Consumer Product

Scope – Included Products



- Products meeting the definition of:
 - Electric Clothes Dryer, or
 - Gas Clothes Dryer, and
 - Consumer product



Scope – Excluded Products

- Products meeting the definition of:
 - Commercial Clothes Dryer, or
 - Water-Cooled Ventless Dryer, or
 - Combination All-in-One Washer-Dryers, or
 - Residential Clothes Washers with an Optional Dry Cycle



Certification Requirements



A. Product Efficiency

– *Optional* Connected Criteria

B. Cycle Time

C. User Information Requirements

- *As a reminder, all certification criteria, including user information requirements, should be confirmed during verification testing*

Product Efficiency



Clothes dryers certified to ENERGY STAR must meet the following performance criteria when test according to the Uniform Test Method for Measuring the Energy Consumption of Clothes Dryers, 10 CFR 430 Subpart B, Appendix D2:

Table 1: Base CEF

Product Category	CEF_{BASE}
Vented Gas	3.48
Vented and Ventless Electric, Standard (4.4 cu-ft or greater capacity)	3.93
Vented and Ventless Electric, Compact (120V) (less than 4.4 cu-ft capacity)	3.80
Vented Electric, Compact (240V) (less than 4.4 cu-ft capacity)	3.45
Ventless Electric, Compact (240V) (less than 4.4 cu-ft capacity)	2.68

Product Efficiency – Connected Functionality



- Product certification using connected functionality criteria is **optional**
 - Connected criteria is only applicable to products meeting the definition of an electric clothes dryers
- Products certifying as compliant to all of the connected functionality criteria may use the connected allowance
 - Products must comply with the Version 1.0 Section 4 connected criteria, and
 - Tested per the final ENERGY STAR Clothes Dryer Test Method to Validate Demand Response

Equation 1. Calculation of Minimum CEF

$$CEF_{MIN} = CEF_{BASE} - CEF_{Adder_Connected}$$

TABLE 2

Connected Allowance	
Product Type	CEF _{Adder_Connected}
All Electric Clothes Dryers	0.05 x CEF _{BASE}

Cycle Time Requirements



- Length of the drying cycle shall not exceed **80 minutes**
- Length of drying cycle is determined by the following:
 - sections 3.3.2, Appendix D2, for automatic termination control dryers. Drying cycle time equals test cycle time.
 - sections 3.3.1, Appendix D2, for timer dryers. The following correction is applied to determine drying cycle time.
 - Correction is intended to account for the range of acceptable RMC values at the completion of the test cycle

$$t_{dry} = \left[\frac{55.5}{W_w - W_d} \right] * t$$

Where:

W_w = the moisture content of the wet test load as recorded in section 3.4.2 of 10 CFR 430, subpart B, appendix D2.

W_d = the moisture content of the dry test load as recorded in section 3.4.3 of 10 CFR 430, subpart B, appendix D2.

t = the measured test cycle time.

User Information Requirements



- Product shall be shipped with informational materials to notify consumers of the following:
 - The specific cycle and setting selections (cycle time, heat setting, default settings engaged, etc.) used to determine the efficiency (CEF) rating
 - Guidance about cycles and settings that may use more or less energy than the tested cycle
 - Example: Choosing the “Energy Saver Mode” will save X% energy.
 - Example: Longer, low heat drying cycles tend to use less energy than do hotter, shorter settings.

Overview of Connected Criteria

- Communications & Open Access
 - Preference for Open standards (NIST or ANSI)
- Consumption Reporting
- Remote Management
- User Status, User Settings & Messages
 - Product must be able to relay at least two types of energy related messages
 - Consumer authorized reporting of operational status
- Demand Response – *Tested*
 - Temporary Appliance Load Reduction (no more than 20% power draw relative to the average baseline)
 - Delay Appliance Load Capability (3 hrs)

Certification of Connected Functionality



- Compliance with connected functionality will be through examination of the product and/or product documentation.
- Demand Response functionality will be certified using the finalized ENERGY STAR Clothes Dryer Test Method to Validate Demand Response
 - DOE is planning to develop a test that will validate the demand response capabilities of a residential clothes dryer.
 - Products must be certified using the ENERGY STAR test method in order to be eligible for the 5% allowance.

Test Method



- The Version 1.0 specification references the finalized Uniform Test Method for Measuring the Energy Consumption of Clothes Dryers, 10 CFR 430, Subpart B, Appendix D2
 - The Appendix D2 test method is considered optional to demonstrate compliance to the minimum federal efficiency standards
 - Products certifying as ENERGY STAR using the Appendix D2 test method, must also certify to the federal standard using the Appendix D2 test method
- Test Method Overview:
 - Testing of the “normal” automatic termination cycle, with high temperature (if separately selectable) , and medium dryness (if separately selectable)
 - Product shall be allowed to run until the cycle completes – no manual termination
 - Remaining Moisture Content of <2% is required for a valid test run

Agenda



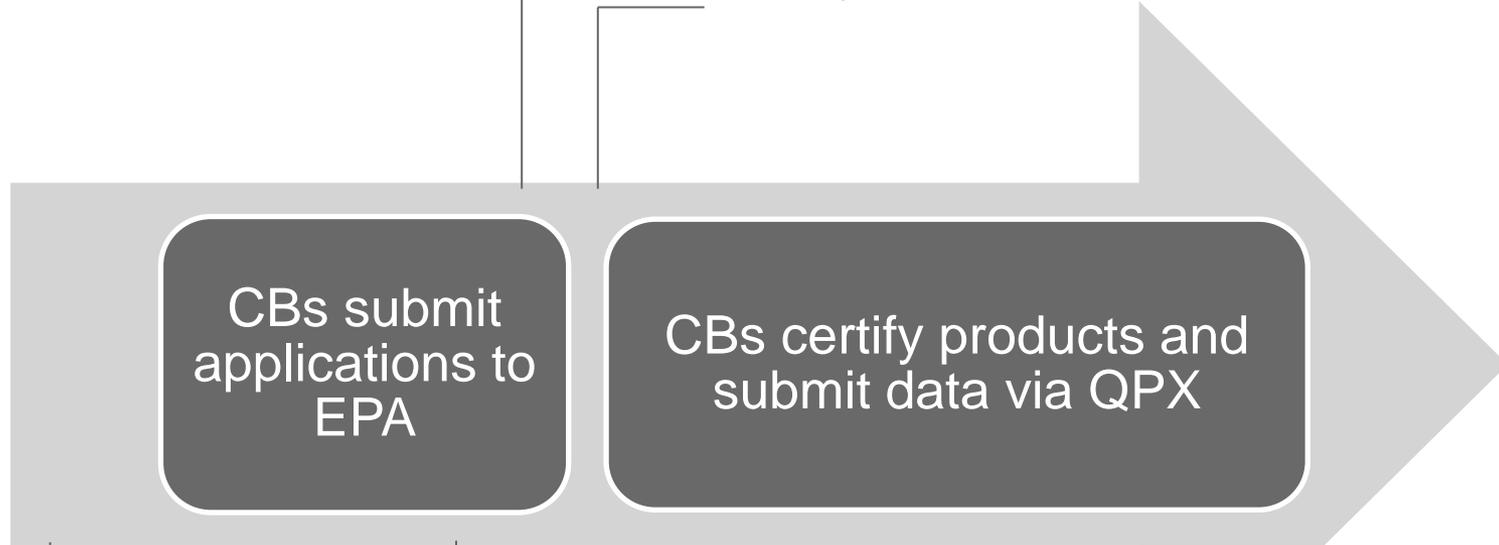
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Certification Timeline



TODAY:
Training Webinar

June 2014:
EPA announces
recognized CBs



Aug 14, 2013:
*DOE test
method final*

May 2014:
*Specification
published*

Summer 2014
*EPA posts QPL for all
products in Version 1.0
scope*

Application Process



- After the specification is finalized, EPA will begin accepting applications for recognition.
- Please send a signed application and evidence that you have contacted your accreditation body requesting a scope expansion for the Clothes Dryers program to certification@energystar.gov:
- A successful QPX test submission using the Clothes Dryers web service will also be a pre-requisite for recognition (Note: if the web service is not yet ready for test by early June, CBs granted advanced recognition must submit a successful QPX test submission once the web service is available.)
- Submission deadline for those CBs that want to be among the first batch recognized will be early June. EPA will continue to accept applications at any time, but cannot guarantee prompt recognition for those that apply after the submission deadline.

Submission Deadline

June 6, 2014

Reporting Requirements



CBs shall report the following data to EPA which includes both tested and verified data and manufacturer information:

- General characteristics (e.g., type, size, capacity)
- Performance characteristics (e.g., CEF and cycle time)
- Matching ENERGY STAR Clothes Washer
- Available features
- Connected Functionality

Fields are specified in the data reporting template (QPX). The template was released for CB review May 22, 2014. Comments on this document are due June 6, 2014

Questions/Discussion

References and Resources



- Laboratory Resources Page:
https://www.energystar.gov/index.cfm?c=third_party_certification.tpc_abs
- Logo Use Guidelines
<https://www.energystar.gov/about/brand/energy-star-brand-book>
- Certification Body Resources:
www.energystar.gov/CBresources
- Frequently Asked Questions: [Third-Party Certification](#)
- QPX: www.energystar.gov/QPX
- Directives:
http://www.energystar.gov/index.cfm?c=third_party_certification.tpc_directives

Contacts



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Please Find CB Resources at:

www.energystar.gov/CBresources