



ENERGY STAR[®]

Appliance Roadmapping and the Connected Home Welcome to Part 1

**October 25, 2016
Melissa Fiffer**



Overview of This Morning's Sessions

- *Part 1, 9-10am: Why Smart Home Technology will Revolutionize the Energy Efficiency Game*
 - Highlights of the appliance roadmapping effort including the focus on connected appliances
 - A presentation from the Shelton Group on the latest research around consumer interest in smart home technology, including what they've purchased, how satisfied they are, and what their barriers are to buying.
- *Part 2, 10:15-12:15pm: Collaborative Opportunities in the Connected Home*
 - A panel representing consumer, utility, retailer and manufacturer experts interactively discussing the opportunities to shape and bring forth products for home energy savings in the connected market.
 - Panelists:
 - Kari Binley, PG&E
 - Brad Piper, Lockheed Martin on behalf of NYSERDA
 - » Also covering material from Claire Miziolek, NEEP
 - Nathan Cho, Electrolux
 - Edward Brann, Sears Holdings Corporation/Kenmore
 - Suzanne Shelton, The Shelton Group



Appliance Roadmapping



Appliance Roadmapping Goals

- Build on more than 20 years of partnership to foster the future success of the ENERGY STAR program for appliances
- Look ahead creatively to the next five years, with the goal of maintaining an ENERGY STAR appliance program that delivers on consumer expectations for performance and efficiency
- Establish pathways to further engagement between EPA ENERGY STAR, appliance manufacturers, retailers and energy efficiency program sponsors on an ongoing basis
- Charting progress and identifying consumer value of connected functionality



Looking Back: Our Year of Appliance Roadmapping

2015

- Sept 2015: EPA kick-off letter
- Oct 2015: ENERGY STAR Products Partner Meeting session
- Dec 2015: EPA Release of Roadmapping and Spec Review Outline
- *Discussion Topics Suggested by Partners/Stakeholders:*
 - The future of laundry
 - Leveraging ENERGY STAR in the context of consumer satisfaction and sustainability
 - Build on refrigerator recycling approach and explore other products
 - Outline the benefits of connected products
 - Enhance connections across partner categories
 - Increase collaboration on future spec development



Looking Back: Our Year of Appliance Roadmapping

- Jan 2016: Webinar on Outlining Appliance Spec Revisions
- Feb 2016: Webinar on Connected Appliances: Charting Progress and Identifying Consumer Value
- Feb 2016: Webinar on Clothes Washers: Defining Key Aspects of ENERGY STAR Customer Satisfaction
- March 2016: Webinar on Dishwashers: Defining Key Aspects of ENERGY STAR Customer Satisfaction
- April 2016: Follow-up Webinar on Connected Appliances
- May 2016: Webinar on Collaborating on Consumer Messaging: Educating on Efficient Product Use and Replacement/Recycling
- June 2016: Connected Appliance Roadmapping Working Group
- Oct 2016: Culmination and Reflections



Connected Appliance Roadmapping Working Group Objectives

- **Connect** partners and stakeholders in the connected market: manufacturers, retailers, utility organizations and service providers.
- **Raise understanding** of the barriers and opportunities for connected appliances from the perspectives of all stakeholders.
- **Provide a clearinghouse/exchange forum** on existing information and research in the connected space, as well as response to questions on technical elements of the ENERGY STAR connected criteria.



Connected Appliance Roadmapping Working Group Shared Resource

- Available on Google Drive
 - Stakeholders can learn from each other, share information and studies, network and advance the value proposition.
- To access shared drive, see “ENERGY STAR Connected Appliances” folder on google drive.
 - Folder is restricted access.
 - For access, provide Doug Frazee dfrazee@icfi.com or Laura Wilson lwilson@navitas-partners.com with your contact information as well as your gmail address.
- Journal
 - E-newsletter compilation of newly released studies and papers on connected products and homes.

ENERGY STAR. The simple choice for energy efficiency.



ENERGY STAR and Connected

ENERGY STAR Connected Criteria



- Our goal: Over the long term, ENERGY STAR connected criteria facilitate home energy savings and GHG reductions, while being mindful of consumers.
 - ENERGY STAR criteria leverage the national platform that utilities can rely on and consumers look for, bringing together interested partners and stakeholders.
 - ENERGY STAR criteria provide consistent definitions and approaches, a consistent set of starter functionality, and an emphasis on open standards.
 - ENERGY STAR is a trusted resource that can help consumers find these connected products and identify the benefits they offer.



Connected Status in ENERGY STAR Specifications

Specification	Connected Criteria	Demand Response Test Method
Refrigerator/Freezer	Final	Final
Clothes Dryers	Final	In Development
Clothes Washers	Final	In Development
Room AC	Final	In Development
Dishwashers	Final	In Development
Pool Pumps	Final	Final
Lighting (Lamps and Luminaires)	Final	N/A
Connected Thermostats	In Development	N/A



Current ENERGY STAR Resources on Connected

ENERGY STAR Certified

Residential Refrigerators

Visit the [Residential Refrigerators](#) page for usage tips and buying guidelines.

Filter Your Results

Type

- Top Freezer (227)
- Bottom Freezer (424)
- Side-by-Side (66)
- Freezerless and Single Door (30)
- Compact (527)

Additional Features

- × Clear selections
- Thru the Door Dispenser (198)
- Automatic Defrost (1012)
- Connected (20)
- Icemaker (482)

- Qualified product list
 - (3) additional fields, on QPL advanced view
 - **Connects Using:** Wired Ethernet, Wi-Fi, Zigbee, HomePlug Green PHY
 - **Communication Standard Application Layer :** SEP 1.x, SEP2.x, OpenADR
 - **Direct on-premises Open-standard Based Interconnection** – Yes/No
- Product finder
 - Product finder would indicate connected Y/N
 - Results of a product finder search would include “connects using” (e.g., Wi-Fi)



ENERGY STAR Certified Appliances with Connected Functionality

- Current status of ENERGY STAR appliances with Connected Functionality
 - 28 refrigerators / freezers
 - 4 clothes washers
 - 2 clothes dryers
- Have technical questions as you are designing connected appliances?
 - EPA has compiled questions from stakeholders in an effort to make its interpretations broadly available - [ENERGY STAR Connected Criteria Q&A](#)
 - We will refresh the Q&A document as questions arise
- Do you have products for DOE testing?
 - Consider supporting DOE efforts to develop ENERGY STAR demand response test methods by providing connected products for testing



ENERGY STAR Connected Thermostats are a little different

- Estimate of energy savings developed from analysis and aggregation of data from customers' homes
 - Inherently includes user interaction with the product, a key lack in previous efforts to recognize thermostats
 - The product is understood as hardware and service combined
 - The service provider will be the ENERGY STAR partner, because they have the data to demonstrate savings
 - Data analysis and aggregation is done by service providers using EPA-provided software, thus protecting privacy; CBs and EPA receive aggregated data only
- Expected to be complete December 2016



Contacts

Appliances

- Melissa Fiffer, US EPA
fiffer.melissa@epa.gov
- Rosemarie Stephens-Booker, US EPA
stephens-booker.rosemarie@epa.gov

Connected Thermostats, Pool Pumps

- Abigail Daken, US EPA
daken.Abigail@epa.gov

Lighting

- Taylor Jantz-Sell, US EPA
jantz-sell.taylor@epa.gov
- Dan Cronin, US EPA
cronin.daniel@epa.gov

Demand Response Test Procedures

- Ashley Armstrong, US DOE
Ashley.armstrong@ee.doe.gov
- Bryan Berringer, US DOE
Bryan.berringer@ee.doe.gov



Part I Q&A (after Melissa and Suzanne present)



Food for Thought During This Morning's Connected Home Sessions

- What does the consumer want? How do we keep their needs at the forefront?
- Where is the efficiency potential?
- What does your organization currently offer? Where do you want to go from here?
- Whom do you want to meet – utilities, home builders, appliance manufacturers, retailers, efficiency advocates? They're all in the room today.
- How can we work together to achieve our goals?



What to Expect after the Break: Part II

- *Part 2, 10:15-12:15pm: Collaborative Opportunities in the Connected Home*
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