MA ENERGY EFFICIENCY ADVISORY COUNCIL

→ CONSULTANT TEAM

RESIDENTIAL PRODUCTS

COUNCIL WORKSHOP
FEBRUARY 9, 2015

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RESIDENTIAL PRODUCTS INITIATIVES

Initiative	Measures	Program Design and Delivery	% of Sector Savings (for fuel type)
Lighting (electric)	▪ Compact fluorescent lamps (CFLs) and fixtures ▪ Light emitting diode (LED) lamps and fixtures	Delivered primarily through upstream incentives at retail (as opposed to in-home lighting direct installs through the Whole House Program)	**50% annual** **61% lifetime**
Cooling & Heating Equipment (electric)	▪ Central air conditioning ▪ Ducted and ductless heat pumps ▪ Heat pump water heaters ▪ Efficient boiler circulator pumps ▪ Quality installation and duct sealing	Primarily promoted through customer/ contractor rebates, though some midstream engagement with HPWHs at retail. Provides incentives and training for proper installation practices, including duct sealing	**3% annual** **6% lifetime**
Consumer Products (electric)	▪ Appliances (refrigerators, room air cleaners, clothes dryers, and dehumidifiers) ▪ Consumer electronics (TVs, computers, and monitors) ▪ Advanced power strips ▪ Variable speed pool pumps	Delivered primarily through customer and upstream incentives at retail Also supports removal and environmentally responsible recycling of inefficient second refrigerators and freezers	**4% annual** **4% lifetime**
Heating & Water Heating (gas)	▪ Gas-fired heating and hot water equipment ▪ Programmable and wireless enabled thermostats ▪ Outdoor reset controls	Primarily promoted with customer/ contractor rebates and through contractor training and distributor outreach	**24% annual** **35% lifetime**

OPPORTUNITIES

INCREASE PROMOTION OF LEDS

- Greater annual and lifetime savings

2014 Preliminary Lighting Results	% of Units	% of Annual MWh	% of Lifetime MWh
Standard/HTR CFL	64%	45%	29%
Specialty CFL	10%	9%	6%
CFL Fixture	3%	5%	6%
Standard LED	10%	14%	19%
EISA Exempt LED	8%	13%	28%
LED Fixture	5%	14%	12%
TOTAL	100%	100%	100%

INCREASE PROMOTION OF LEDS (CONT.)

- Superior performance to CFLs across most attributes
  - Run-up time, lifetime, efficiency, dimmability, cold temperature and directional applications
- Leverage increasing availability and decreasing costs
- Lower incentive $/lifetime kWh for specialty LEDs
- But currently higher costs of savings for standard LED lamps vs. comparable CFLs

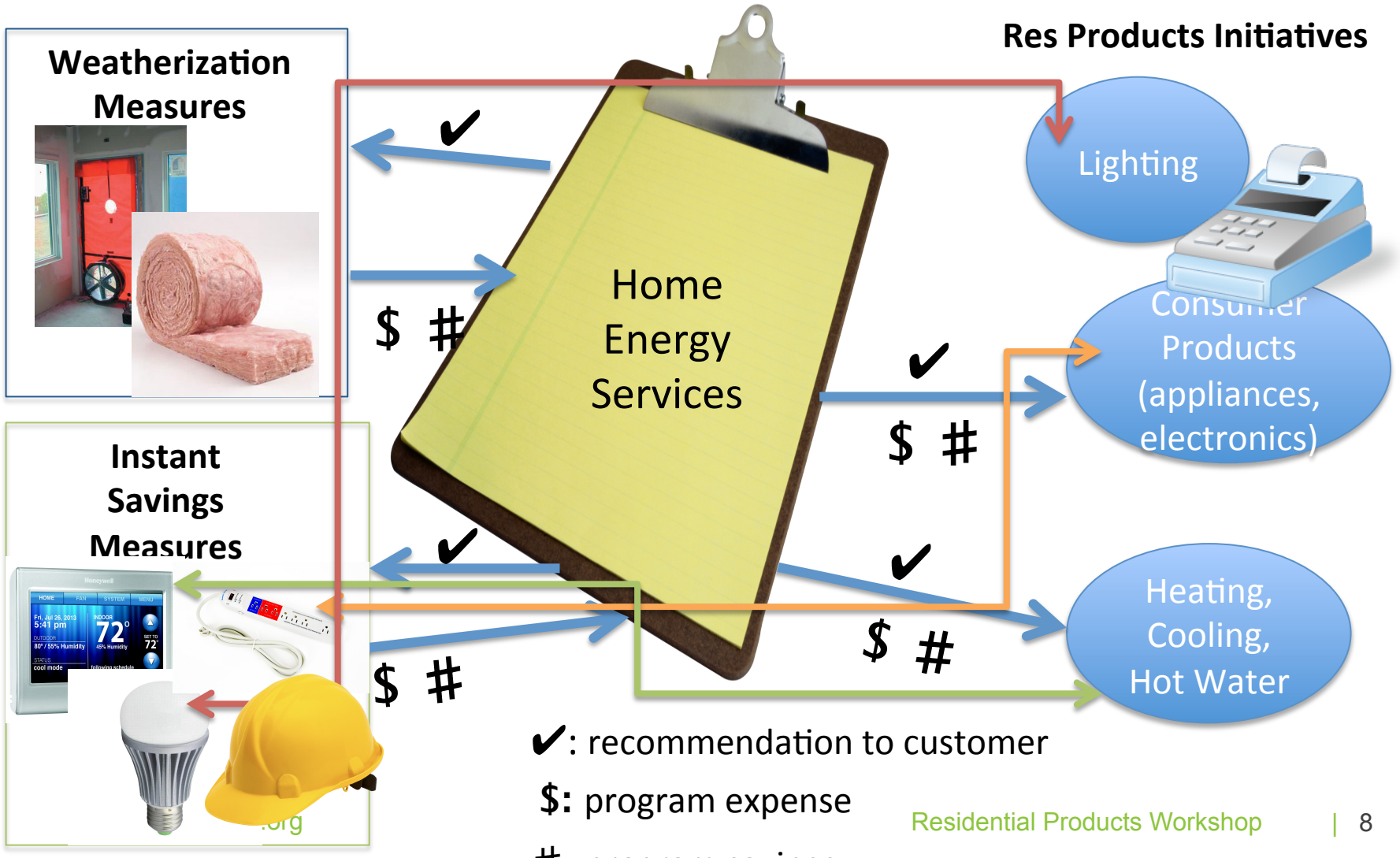
PROMOTE NEW TECHNOLOGIES, PRACTICES AND IMPLEMENTATION STRATEGIES

- New technologies
  - Expanded capabilities of wireless enabled thermostats, including as a platform for home energy management
  - Expanded efficient dryer offering
- New practices and implementation strategies
  - Upstream HVAC and water heating
  - Provide proper boiler installation training/intervention
  - Duct sealing for gas-fired heating systems
  - Demand response

PURSUE A FUEL-BLIND APPROACH TO SPACE HEATING AND HOT WATER

- Increase choices available to customers
  - Cold climate ductless and ducted heat pumps, pellet stoves, and solar hot water
- More fully align with Global Warming Solutions Act's goals
- Reassess how PAs are able to claim savings
- Harmonize with efforts of MA Clean Energy Center and others
- Leverage pending revisions to Residential Conservation Services regulations and guidelines to open new doors

CONTINUE TO ENHANCE COORDINATION BETWEEN PROGRAMS



KEY QUESTIONS

HOW QUICKLY SHOULD PAS TRANSITION TO ONLY SUPPORTING LEDS?

1. What should that trajectory look like, and what market information should be collected to inform any decision to phase out PA support for CFLs?
2. How should important non-savings attributes of LEDs be balanced against the current, higher costs of savings for general service LED lamps?
3. Many specialty CFLs already have a higher incentive $/ lifetime kWh cost than their LED counterparts. Should these lighting products be discontinued in favor of LEDs in the 2016-2018 Plan?

WHAT NEW TECHNOLOGIES AND PRACTICES COULD BE INCLUDED IN THE 2016-2018 PLAN?

1. Could expanded and new wireless enabled thermostat and home energy management system efforts be used to increase customer engagement (including behavior) and support demand response activities to address peak load issues?
2. Are there adjustments to existing program delivery models (e.g., upstream HVAC for appropriate measures) that should be considered?

SWITCHING FUELS AND PROGRAM COORDINATION

1. What should be the role of efficiency programs to identify, promote and support a fuel-blind approach to space and water heating?
2. How can Whole House and Products Programs efforts be better coordinated to promote efficient products and encourage their proper installation in existing homes?
   - To enhance customer experience
   - To achieve deeper savings