



U.S. Department of Energy
Energy Efficiency and Renewable Energy

American Recovery and Reinvestment Act of 2009 (ARRA)

State Energy Efficient Appliance Rebate Program Technical Assistance Webinar for State Energy Offices

August 27, 2009



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Program Update

Initial Applications

- All 56 States and Territories submitted applications
- Initial 10% awards are underway - 47 already out!

Comprehensive Applications

- Program proposals due October 15
- DOE will approve plans on a rolling basis – the sooner proposals are received, the sooner money will be disbursed
- All monies will be released by November 30



DOE Technical Assistance

- Provide information and tools to help SEOs design appliance rebate programs that:
 - Save energy
 - Maximize rebates to consumers
 - Enhance or supplement existing programs
 - Keep administrative costs low
 - Leverage existing ENERGY STAR partner network and consumer education materials





Purpose of Today's Session

- Help States and Territories get started with program planning
 - Products and rebate levels
 - Program design considerations
 - Simple and advanced program models
 - Recycling information
 - Working with retailers
 - Preparing for consumer demand
- Present DOE tools and assistance for States
- Provide time for Q&A



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Program Planning



Getting Started: Key Steps

1. Determine what's already going on in your State/Territory
 - Federal tax credits / existing State programs / utility rebates
2. Decide which products to promote
 - Local savings potential / local market situation / efficiency tiers
3. Set appropriate rebate levels
 - Complement existing / incremental cost
4. Estimate budget for rebates (Repeat steps 2 and 3 as needed)
5. Decide on program implementation approach
 - Delivery: State run, 3rd party implementer, or utilities
 - Program rules: Eligibility, product recycling, and retailer participation
 - Rebate payment: Mail-in applications or instant rebates at point of sale
 - Partners/Allies: Retailers, contractors, local utilities and neighboring States
6. Define tracking and monitoring needs



Getting the Lay of the Land in your State

- Utility Rebate Programs
 - 2009 Appliance Program Summary (Available mid-Sept)
 - www.energystar.gov/dime
 - www.dsireusa.org
 - Contact your local utilities to confirm all info – especially to understand what is planned for 2010 and 2011
- Federal Tax Credits
 - Available for select water heater and HVAC equipment
 - Not for clothes washer, fridge/freezer, dishwasher, room AC
 - View details at: www.energystar.gov/taxcredits



Federal Tax Credits (2009 – 2010)

| Product | Credit Amount* | Tax Credit Efficiency Level |
|--|------------------|-----------------------------|
| Heat Pump Water Heater | 30% up to \$1500 | ENERGY STAR |
| Gas Tankless Water Heater | 30% up to \$1500 | ENERGY STAR |
| Solar Water Heater | 30% of cost** | ENERGY STAR |
| Gas Condensing Water Heater | 30% up to \$1500 | Above ENERGY STAR |
| Gas or Oil Boilers | 30% up to \$1500 | Above ENERGY STAR |
| Gas or Oil Furnaces | 30% up to \$1500 | Above ENERGY STAR |
| Central Air Conditioners and Air-source Heat Pumps | 30% up to \$1500 | Above ENERGY STAR |
| Geothermal Heat Pumps | 30% of cost** | ENERGY STAR |

*Credit is calculated based on installed cost. Total credit per household across all products is limited to \$1500.

**No cap on solar water heaters or geothermal heat pumps, which are eligible through 2016.



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Which Products to Rebate?



Recommended ENERGY STAR Products

Home Appliances

- Clothes Washers
- Dishwashers
- Freezers
- Refrigerators
- Room air conditioners



HVAC

- Boilers
- Central air conditioners
- Furnaces (oil & gas)
- Air-source heat pumps
- Geothermal heat pumps



Water Heaters

- Gas storage
- Gas tankless
- Gas condensing
- Heat Pump
- Solar





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Setting Rebate Levels



Considerations for Setting Rebate Levels

- Relative energy savings potential
 - Per-unit energy savings
 - Number of old units still in use
- Price difference of ENERGY STAR qualified unit vs. standard-efficiency unit
- Current ENERGY STAR product sales
- Other rebates/incentives available

Helpful Resources: Spreadsheet tool to help analyze scenarios and Appendix B from the FOA



Tiering Rebates

- Many utility programs focus on super-efficient products
 - The Consortium for Energy Efficiency (CEE) develops efficiency tiers and product lists for refrigerators, clothes washers, dishwashers, room AC, and HVAC (www.cee1.org)
- States can provide:
 - Higher rebates for super-efficient products
 - Rebates for only super-efficient products
- Retailers and manufacturers are familiar with this model
- This model can:
 - Maximize energy savings
 - Increase energy savings per dollar spent



Integrating with Existing Rebates

- Option 1: Offer rebates on products not covered by existing utility rebates
- Option 2: Layer State rebates on top of existing rebates

| | |
|------------------|---------------|
| Utility: \$75 | State: \$0 |
|------------------|---------------|

Clothes Washer

| | |
|-----------------|----------------|
| Utility: \$0 | State: \$50 |
|-----------------|----------------|

Refrigerator

| |
|---------------|
| State: \$25 |
| Utility: \$50 |

Clothes Washer

Work closely with utilities on program design and marketing to avoid confusion and increase market transformation.



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Key Program Design Considerations for Specific Products

- Clothes Washers
- Refrigerators / Freezers
- Room Air Conditioners
- Dishwashers
- Water Heaters
- Heating and Cooling Equipment (HVAC)



Clothes Washer Snapshot



Market Opportunity

- 84.1 million U.S. households have a top-loading washer; 24 million of these are at least ten years old
- ENERGY STAR criteria just increased (7/1/09) and will change again January 2011

Energy and Water Savings

- New ENERGY STAR models cut energy and water use in half compared to a 10-year old model

Rebates can Affect the Market

- Price premium can deter some consumers (\$250 - \$400 more)
- ENERGY STAR market share is still relatively low at 30-40%



Refrigerator and Freezer Snapshot



Market Opportunity

- Nearly every U.S. home has a refrigerator, and 26% have 2 or more
- Today's ENERGY STAR refrigerators use about half as much energy as ones made before 1993
- 23.5 million U.S. households have pre-1993 fridges

Energy Savings

- New ENERGY STAR refrigerators save 20% in energy compared to new standard models – but over 50% compared to pre-1993 models

Rebates can Affect the Market

- Spur retirement of old kitchen refrigerators; consumers may keep old ones too long thinking it's smarter than buying a new one
- Capture and decommission old inefficient units so they don't end up as 2nd units or in someone else's home



Room Air Conditioner Snapshot



Market Opportunity

- About 23% of U.S. homes have a room AC unit
- Saturation is highest in older housing stock without central air conditioning – most common in Northeast and Mid-Atlantic

Energy Savings

- Save 10% compared to new standard Room A/Cs.
- Save 40% compared to units purchased before 1998

Rebates can Affect the Market

- Steer impulse shoppers to an efficient unit
- Capture old units for recycling



Dishwasher Snapshot



Market Opportunity

- New criteria just took effect (8/11/09) and will change again July 2011
- Market share in 2007 was about 75%, but is expected to drop this year and again when 2011 criteria takes effect

Energy Savings

- New ENERGY STAR qualified dishwashers consume about 40% less energy than current models meeting the federal standard

Water Savings

- Use about 30% less water than standard efficiency models

Rebates can Affect the Market

- Spur stocking and sales of 2011 models



Home Appliances – Simple Program Model

- Mail-in rebates for ENERGY STAR Clothes Washers
- Mail-in rebates for ENERGY STAR Refrigerator/Freezer
 - Require recipient to retire old unit (certify on their form)
 - Provide info on proper disposal/recycling, coordinate with municipalities and retailers to provide info
- Regions with high saturation of Room AC units: Summer Turn-in Events
 - Collect and recycle old units
 - Coupons/discounts toward purchase of new ENERGY STAR unit
 - Often held at retail stores to make transaction easy for consumers and haul-away easy for program sponsors



Home Appliances – Advanced Model

- Rebates directed to higher efficiency products
 - CEE tiers for home appliances
- Develop retailer partnerships
 - Offer point-of-sale rebate
 - Require recycling of home appliances collected
 - Recycling infrastructure exists but many may need to be supplemented
 - Maximizes environmental benefit



Water Heater Snapshot

Market Opportunity

- Water heating is about 18% of a home's energy use
- There are about 110 million inefficient water heaters in use in the U.S.
- ENERGY STAR for water heaters is new (Jan. 2009)

Energy Savings

- ENERGY STAR gas storage water heaters can save 7%, gas tankless about 30%, and advanced electric heat pump, gas condensing, and solar about 50%

Rebates can Affect the Market

- Limited awareness among plumbers/contractors
- ENERGY STAR market share is low
- Use dual combination of rebates + tax credits to jump start market for more efficient water heaters



Water Heater Program Considerations

- Encourage retirement of storage water heaters that are at least 10 years old
- Engage retail and plumber networks
 - About 50% of all water heaters are bought at retail, the other 50% are bought from a plumber/distributor
- Simple: Mail-in rebates for readily available gas storage models (that aren't eligible for tax credits) + heat pump if an electric option is desired.
- Advanced: Rebates for all 5 types, with higher \$ levels for more efficient technologies (e.g., heat pump, solar, and gas condensing once it is available); partnerships with retailers and distributors



HVAC Snapshot

Market Opportunity

- Heating and cooling can be up to 50% of a home's energy use
- Older equipment is substantially less efficient
- Federal tax credits available for units > ENERGY STAR

Energy Savings

- New equipment can lower energy costs and increase overall home comfort
- Savings are largest in more extreme climates or dual heating/cooling regions such as Mid-Atlantic

Rebates can Influence the Market

- HVAC systems are a large purchase for most homeowners and the extra price premium can discourage upgrade
- Leverage contractors to encourage proper installation
- Promote ENERGY STAR units not eligible for federal tax credits



HVAC Program Considerations

- Proper installation is key to achieving energy savings
 - Trained contractors
 - Right size the equipment
 - Check refrigerant charge and air-flow
 - Ensure components are matched
- Use dealer network
 - Many utilities already have contact with dealer network
 - Can also be accessed through manufacturers and retailers
- Simple: Mail in rebates at ENERGY STAR level (below tax credit levels)
- Advanced: Tiered rebates + Contractor outreach/training



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Recycling Considerations



Considering Recycling

- FOA requires that only “replacement” products receive rebate and encourages product recycling
 - Replacement: old unit is removed from the home
 - Recycling: old unit is removed from the grid and properly decommissioned
- Requiring recycling increases program benefits
 - Provides proof of “replacement”
 - Ensures older, inefficient units are removed from the grid
 - Captures refrigerant
- Can increase program administration costs
- Need partners, e.g., municipal solid waste orgs, recyclers, retailers





Recycling Lessons from Utility Programs

- Bounty programs have encouraged consumers to part with old (usually second) refrigerators
- The number of bounty programs for old units is growing
- Several program models exist:
 - Bounty payment for old unit with free home pick-up
 - Rebate for new unit + bounty for old unit being replaced
 - Home delivery and pick-up (through retailer)
 - Event-based (for room AC)
- Event-based RAC recycling programs can drive recycling and sale of several hundred units over a weekend



Program Options for Recycling Fridges/Freezers

- Sign up “Participating Retailers”
 - Allow them to offer instant rebates at the cash register
 - Require them to provide pick-up and recycling services
 - Direct consumers to participating retailers to receive rebates
- Provide administrative processing fees to retailers for each refrigerator collected and recycled
- Award refrigerator rebates to consumers in two parts:
 - Half at time of purchase
 - Half after old unit is collected/recycled
- Award refrigerator rebates to consumers after recycling has been confirmed



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Other Considerations



Tips for Working with Retailers

- Make sure program design is as clear as possible
 - What products qualify?
 - What are rebate amounts?
 - Who qualifies for rebates?
 - When are rebates available?
- Make sure program participation is reasonable
 - What data do you need? How frequently?
 - Give adequate program notice to help ensure
 - Proper signage and display
 - Sales-staff training
 - Adequate product inventory
- Be clear about what recycling requirements there are and what the program defines as recycling
- Work with both corporate and local contacts



ENERGY STAR Retail Partners

| | |
|---|---|
| Best Buy 1,500 stores nationwide Products: CW, DW, Freezer, Ref | Offers pick-up services nationally and recycling services in some regions |
| Home Depot 2,200 stores nationwide Products: CW, DW, Freezer, Room AC, Ref, WH, HVAC | Offers pick-up and decommissioning services nationally |
| Lowe's 1,675 stores nationwide Products: CW, DW, Freezer, Room AC, Ref, WH | Offers pick-up services nationally and recycling services in some regions |
| Sears 4,600 stores nationwide Products: CW, DW, Freezer, HVAC, Room AC, Ref, WH | Offers pick-up services nationally and recycling services in some regions |
| Nationwide Buying Group 3,000 members with 8,000 storefronts nationwide | Product selection and pick-up services vary by store |
| BrandSource Over 3,000 independent stores and regional chains nationwide | Product selection and pick-up services vary by store |
| Others | Independent and regional stores with varying product selection and pick-up services |



Lessons from Cash for Clunkers

- Consumer demand may be stronger than anticipated
 - Press coverage is building interest
 - Consumers may start delaying purchases until the State rebates are available
- Retailers will actively promote the rebates once they are available
- Funds may be exhausted quickly
- Larger than expected demand can lead to an over-subscribed program and disappointed consumers



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DOE Technical Assistance



Account Managers

- Individual program development assistance
- Identify existing resources and tools
- Connections with retailers, manufacturers, and utilities
 - Provide contact info
 - Make introductions
 - Arrange calls/webinars

You've probably heard from your Account Manager already – but if not send an e-mail to ApplianceRebates@drintl.com.



Existing ENERGY STAR Tools and Resources

- Online resources
 - Product-specific savings numbers, illustrations, and savings calculators
 - Recycling tools and resources
 - Utility program information

ENERGY STAR Home Page: www.energystar.gov

Recycling Info: www.energystar.gov/recycle

Utility Rebate Info (search by utility): www.energystar.gov/dime

Utility Rebate info (search by zip code): www.energystar.gov/rebatefinder



ENERGY STAR Appliance Partner Meeting

September 21-23 in Chicago

- Working meeting to facilitate cooperation between retailers, manufacturers, and utilities to promote ENERGY STAR qualified appliances and water heaters. Attendees include:
 - Sears
 - Best Buy
 - Lowes
 - Nationwide Marketing Group
 - BrandSource
 - Whirlpool
 - Bosch
 - Electrolux
 - Samsung
 - LG
 - Rheem
 - AO Smith
 - GE
 - Costco
- SEOs will have specific times to meet with retailers/manufacturers
- Register at www.EnergyStarPartners.net



Spreadsheet Tool for Planning & Reporting

- Evaluate different rebate amounts
- Establish estimated quantities for each product type
- Develop rebate budget
- Determine potential energy savings
- Help report progress to DOE
 - # of units rebated
 - Total \$ paid out in rebates
 - Total energy saved



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| | A | B | C | E | F | G | H |
|----|---|--|--|--|---------------------------|--|--|
| 1 | Program Plan Detail - Rebate Levels and Targeted Number of Units | | | | | | |
| 2 | State or Territory: | Georgia | | | | | |
| 3 | Instructions: Select your state/territory from drop down list above. Then enter projected rebate levels and quantities for each product in the yellow columns. Totals will appear automatically in the gray columns. | | | | | | |
| 4 | Products | ENERGY STAR Criteria | Projected 2009 Unit Sales for Total Product Category (in State) | National ENERGY STAR Market Share | Rebate Amount (\$) | Target Number of Rebates (2010) | Target Number of Rebates (2011) |
| 5 | Clothes Washers | | | | | | |
| 6 | 7/1/09 Criteria | MEF >= 1.8; WF <= 7.5 | 246,824 | 40% | \$ 50 | 40,000 | 40,000 |
| 7 | 1/1/11 Criteria | MEF >= 2.0; WF <= 6.0 | 246,824 | 30% | \$ 75 | 15,000 | 15,000 |
| 8 | Dishwashers | | | | | | |
| 9 | 8/11/09 Criteria | <= 324 kWh/year and <= 5.8 gallons per cycle | 172,275 | 40% | | | |
| 10 | 7/1/11 Criteria | <=307 kWh/year and <= 5.0 gallons per cycle | 172,275 | 20% | | | |
| 11 | Refrigerators | 20% better than Federal standard | 273,202 | 30% | \$ 75 | 20,000 | 20,000 |
| 12 | Freezers | 10% better than Federal standard | 64,258 | 3% | | | |
| 13 | Room Air Conditioners | EER ~10% greater than Federal standard | 256,157 | 50% | | | |
| 14 | Water Heaters | Varies by type (see below) | | | | | |
| 15 | Gas-Condensing | EF >= 0.8 | 78,148 | 0% | | | |
| 16 | Electric Heat Pump | EF >= 2.0 | 215,004 | 0% | | | |
| 17 | Gas Storage (1/1/09 Criteria) | EF >= 0.62 | 78,148 | N/A | | | |
| 18 | Gas Storage (9/1/10 Criteria) | EF >= 0.67 | 78,148 | N/A | | | |
| 19 | Gas Tankless | EF >= 0.82 | 78,148 | N/A | | | |
| 20 | Solar (electric back-up) | SF >= 0.5 | 215,004 | N/A | | | |
| 21 | Solar (gas back-up) | SF >= 0.5 | 78,148 | N/A | | | |
| 22 | Central Air Conditioners | >=14.5 SEER/ >=12 EER* for split systems; >=14 SEER/ >=11 EER* for single package equipment including gas/electric package units | 141,530 | 21% | | | |



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Program Plans



Preparing Program Plans

- **DOE will provide a checklist/template to States**
- **Comprehensive Application Package (October 15)**
 - Standard Form 424
 - Program Plan
 - Budget and explanation
 - Other documents as specified in the FOA
 - NEPA CX (is in effect)
 - Submit final package
 - Find forms here: <http://www.grants.gov>
 - Submit completed package here: www.fedconnect.net



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Questions



Questions

Office of Energy Efficiency and Renewable Energy (EERE)
Weatherization and Intergovernmental Programs Website

<http://www.eere.energy.gov/wip>

<http://www.eere.energy.gov/recovery>

Submit any questions you have about this program via
www.fedconnect.net

DOE contacts

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