

Becoming RAD

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Ohio Solid Waste Coordinators District Round Table

Ohio DEP

Columbus Ohio

August 1, 2019



Agenda



- Introduction to the RAD Program
- Overview of RAD Partners & Achievements
- How to Become a RAD Partner
- Questions



Introduction to the RAD Program

EPA's RAD Program



- **What is RAD?**
 - A voluntary partnership program that works with utilities, retailers, manufacturers, states, affiliates, and others to dispose of old refrigerated appliances using the best environmental practices available
 - The RAD program recognizes partners that commit to collecting and disposing of old refrigerated appliances using best environmental practices and going beyond what is required by federal law

What is Required by Law?



- **Federal Regulations**

- Section 608 of the Clean Air Act requires the recovery of refrigerant, with limited exception, prior to appliance dismantling or disposal ([40 CFR Part 82 Subpart F](#))
- Subtitle C of the Resource Conservation & Recovery Act (RCRA) and Subpart D of the Toxic Substances Control Act (TSCA) require proper management and storage of universal waste (e.g., mercury, used oil, and PCBs) (40 CFR Parts [273](#), [279](#), [761](#))

How Do Partners Go Beyond?



- In addition to complying with federal regulations on recovery of refrigerant, used oil, mercury, and PCBs, partners:
 - Recover appliance foam
 - Promote recycling of all durable goods
 - Promote the permanent retirement of old, inefficient appliances to save energy

Why Join?



- RAD provides partners with a variety of tools and resources related to responsible appliance disposal
- RAD provides access to a national network of like-minded organizations to encourage partners to exchange information and share best practices



Thank you for recycling your refrigerated appliance with a proud partner of EPA's Responsible Appliance Disposal (RAD) Program.

Partners of EPA's RAD Program commit to collecting and disposing of old refrigerated appliances using best environmental practices. Recycling with a RAD partner will:

- Reduce your household energy consumption, which will save you money
- Avoid the release of ozone-depleting substances (ODS) and greenhouse gases (GHG)
- Save landfill space and energy by recycling—rather than landfilling—the metals, plastics, and glass contained in your appliance
- Avoid the release of used oil, mercury, and polychlorinated biphenyls (PCBs) which can cause adverse human health effects

Benefits Achieved by RAD (2007-2016)



Multifamily Appliance Recycling Programs

RAD Non-Energy Benefits (NEBs)



Sally Hamlin— U.S. EPA
Mike Butkus— ComEd
Jason Christensen— Cadmus Group
Christine Gajewski— ICF International

June 2, 2016



Why Join?



- RAD helps partners achieve and track environmental benefits

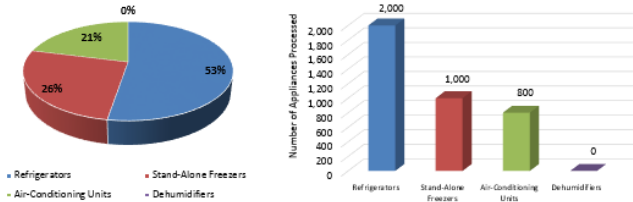
Key Messages and Figures generated for RAD partners annually

Step 5: Key Messages and Figures to Promote Program's Benefits

Instructions: No action is required. The information below is for reference only and is self-populated based on data entered in the Step 3 worksheets. The purpose of this worksheet is for EPA to provide RAD partners with key messages and figures to promote the benefits of their appliance disposal program.

RAD Results

In 2017, ICF collected and processed a total of 3,800 refrigerant-containing appliances using best environmental practices. As a result, ICF successfully reduced emissions of ozone-depleting substances and greenhouse gases as well as reduced energy consumption, increased the recycling of durable materials, and ensured the proper handling of hazardous substances.



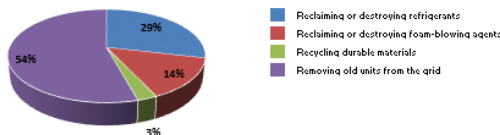
Climate Benefits

In 2017, ICF achieved a reduction of 8,416 metric tons of carbon dioxide equivalent, which is equal to:

- greenhouse gas emissions from 1,176 passenger vehicles driven for one year. (-or-)
- carbon dioxide emissions from 892 homes' energy use for one year. (-or-)
- carbon dioxide emissions from 237,331 incandescent lamps switched to LEDs.



Of these emissions reduced, 28.6% can be attributed to reclaiming or destroying refrigerants, 14.4% to reclaiming or destroying foam-blowing agents, 2.7% to recycling durable materials (which avoids the need to produce virgin materials), and 54.3% to removing old units from the grid.



Use of Key Messages and Figures in promotional materials by Mass Save (Cape Light Compact, Eversource, National Grid, and Unitil)

WHAT SAVINGS ARE SITTING IN YOUR OLD REFRIGERATOR?

Recycling your old unit can save **resources, energy, and money.**

95% of a refrigerator or freezer can be recycled.

A single refrigerator contains:

- 135 lbs Metal
- 11 lbs Plastic
- 6 lbs Foam Insulation
- 4 lbs Glass

Plastic to **consumer goods**

Foam to **energy**

Metal to **building materials**

Glass to **cement**

mass save Since 2006, the Mass Save® Appliance Recycling Program ...

has prevented over **107,000** refrigerators and freezers from entering landfills. All while going **above and beyond** federal requirements as a part of **RAD™**.

Resulting in:

- An estimated lifetime energy savings of nearly **418 Million kWh**
- 17.9 million** pounds recycled material
- Almost **\$5.7 Million** in rebates

Plus, helping customers who upgrade their old unit save up to \$100 a year in energy costs.

To participate:

- 1 Call 1-877-889-4761 or visit MassSave.com/Recycle to schedule a free pickup.
- 2 Your unit is picked up, loaded on a truck, and taken to a recycling facility.
- 3 The refrigerator or freezer is dismantled piece by piece.
- 4 Components are reused, recycled, or responsibly eliminated.

BROUGHT TO YOU BY

Why Join?



- Partners are publicly recognized by EPA for:
 - Protecting the ozone layer and reducing GHG emissions
 - Saving landfill space and energy by recycling rather than landfiling durable materials
 - Keeping communities safe by avoiding the release of used oil, mercury, PCBs

Partner recognition on RAD website and U.S. EPA social media accounts

Welcome to Efficiency Smart! [EXIT](#)
The EPA RAD program welcomes Efficiency Smart as the newest RAD partner.

Welcome to PPL Electric Utilities! [EXIT](#)
The EPA RAD program welcomes PPL Electric Utilities as the newest RAD partner.



RAD program case study on DHSS



Partner recognition in the RAD program's 10th Anniversary Report

Why Join RAD?

- RAD partners are **publicly recognized** by EPA.
- EPA provides partners with a variety of **tools and resources** related to responsible appliance disposal.
- RAD helps partners **achieve and track** environmental benefits.
- RAD provides **access to a national network** of like-minded organizations.



At the RAD program's launch in October 2008, former EPA Region 9 Administrator, Wayne Nease (left), honored EPA staff who collect and recycle appliances as part of the RAD program including from left to right: Garth Williams, Southeast Public Utility District, Gene Helgeson, Southern California Edison, Mark Gagne, San Diego Gas and Electric, and Jim Parks, Sacramento Municipal Utility District.

Sears. We see our participation in EPA's RAD program since 2008 as a demonstration of our strong commitment to the environment and our customers. Sears Home Services has long been a champion of energy efficient appliances, and we're proud to be a RAD partner and promote both responsible appliance use and disposal. We aspire to be a RAD partner by taking action to mitigate adverse environmental results while encouraging our industry to do the same.

SMECO. The annual RAD partner meetings have been a great venue for connecting with other RAD partners and learning about the innovations they've implemented in their own recycling programs. These connections have helped us identify new ways to improve our appliance recycling program since joining the RAD program in 2012.

Commonwealth Edison. Our long-standing partnership with RAD enables us to assure our customers that the disposal of each refrigerated appliance is done using the best environmental practices available to protect the climate and ozone layer.

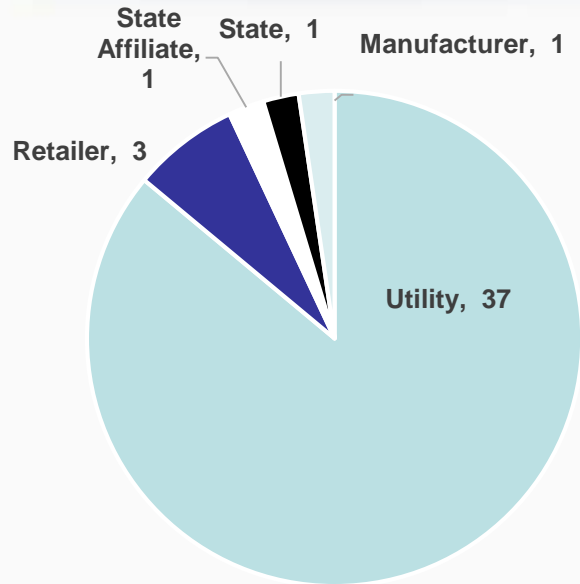
West Virginia Department of Environmental Protection. West Virginia was the first state affiliate to join the RAD program in 2010. We are proud to promote the reduction of ozone depleting substances and greenhouse gases from old appliances through the West Virginia Energy Efficiency Appliance Rebate Program. The publicity we have received from the RAD program has helped spread awareness about appliance recycling efforts in our state.

City of Burbank Water and Power. Since partnering with RAD in 2008, we've been able to save energy through encouraging the responsible disposal of refrigerated appliances. Our marketing efforts—including our website, social media, utility bill inserts, and newsletters—have also increased our customers' awareness of the environmental benefits of responsible appliance disposal.



Overview of RAD Partners & Achievements

Who are RAD Partners?



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RAD Partners and Affiliates



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States Serviced by RAD Partners

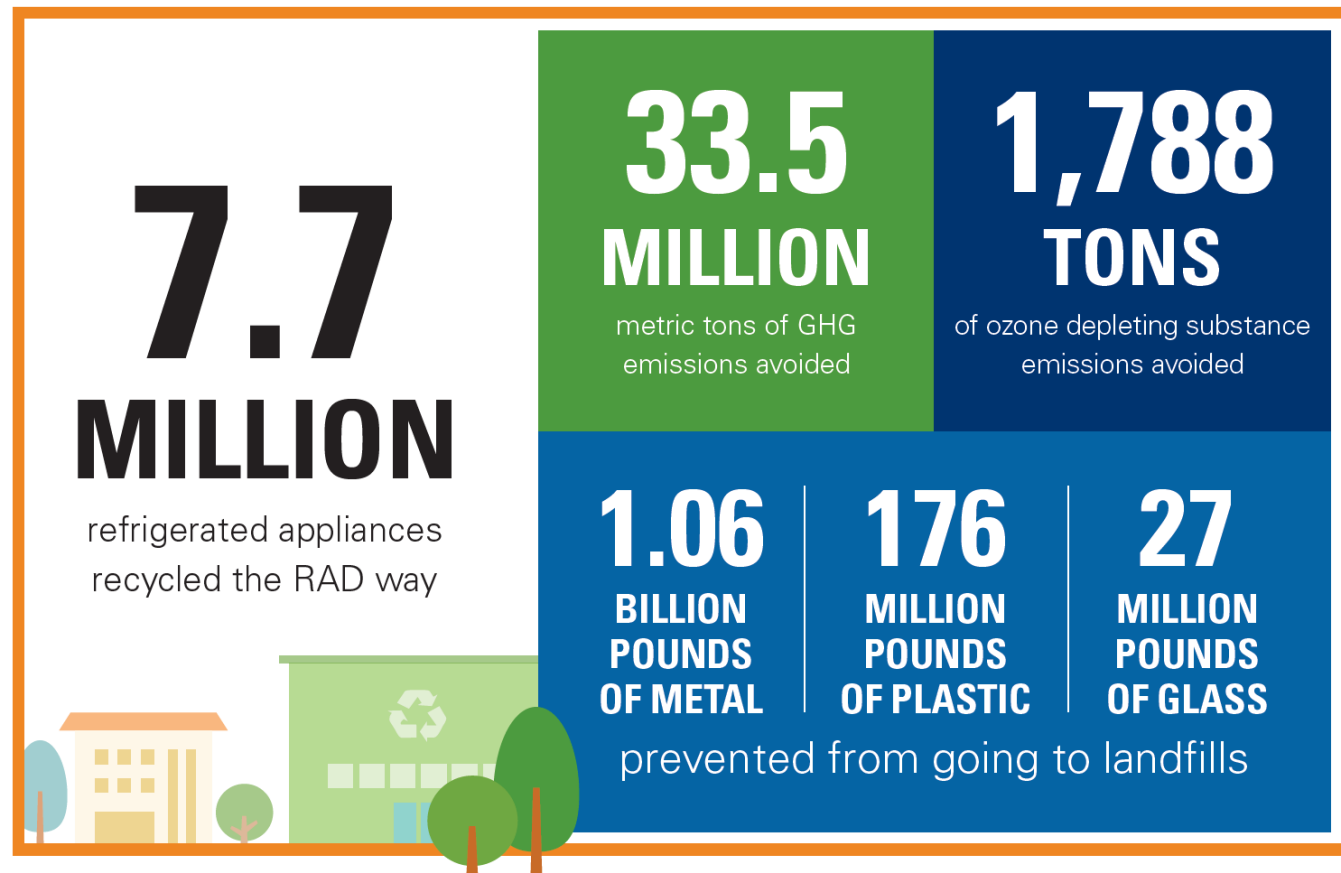


RAD Partners and Affiliates: AEP Indiana Michigan Power • AEP Ohio • Appliance Smart • Baltimore Gas & Electric (BGE) • Cape Light Compact • City of Burbank Water and Power (BWP) • City of Fort Collins Utilities • Commonwealth Edison • Consumers Energy • Dayton Power and Light (DP&L) • Delaware Department of Health and Social Services (DHSS) • Delmarva Power • Efficiency Smart • Eversource • Focus on Energy • GE Appliances • Georgia Power • The Home Depot • Idaho Power • Indianapolis Power & Light Company (IPL) • Kentucky Power • Liberty Utilities • Los Angeles Department of Water and Power (LADWP) • Louisville Gas & Electric (LG&E) and Kentucky Utilities (KU) • MidAmerican Energy Company • National Grid • New York State Electric and Gas Corporation (NYSEG)/Rochester Gas & Electric (RG&E) • NIPSCO • PECO Energy Company • Pepco • PNM • PPL Electric Utilities • Public Service Electric and Gas Company (PSEG) • Puget Sound Energy • Riverside Public Utilities • Sacramento Municipal Utility District (SMUD) • Sears • Southern Maryland Electric Cooperative (SMECO) • UGI Utilities • Unitil • Vectren Energy Delivery • West Virginia Department of Environmental Protection • Xcel Energy (CO, MN, NM)

Partner Achievements



- From 2007-2017, partners recycled nearly 7.7 million refrigerated appliances the “RAD way” resulting in:





How to Become a RAD Partner

How to Become a RAD Partner



If your organization is already disposing of appliances using RAD best practices, it's easy!

- Review and sign non-binding partnership agreement
- Report program information annually
- An example partnership agreement is available on the RAD website at:

<https://www.epa.gov/rad/example-rad-partnership-agreement-form>

The image shows a sample of the EPA's Responsible Appliance Disposal Program (RAD) Example Partnership Agreement. The document is titled "EPA'S RESPONSIBLE APPLIANCE DISPOSAL PROGRAM EXAMPLE PARTNERSHIP AGREEMENT" and features the EPA logo at the top. It is divided into several sections: "PROGRAM EXPECTATIONS", "DISPUTE RESOLUTION", and "GENERAL TERMS". The "PROGRAM EXPECTATIONS" section details the responsibilities of the Partner and EPA, including the requirement for the Partner to maintain a minimum 95% recovery rate of appliances. The "DISPUTE RESOLUTION" section outlines the process for resolving any disagreements between the Partner and EPA. The "GENERAL TERMS" section includes information about the agreement's duration and the Partner's obligation to report program information annually. The form also includes a signature line for the Authorized Company Representative and a section for the Partner's name, address, and contact information.

If your organization is not already disposing of appliances using RAD best practices, but is interested in partnering with RAD, contact Sally Hamlin



Questions?

For More Information



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