

RAD Celebrates 50 Partners and Six Years of Achievement



The U.S. Environmental Protection Agency (EPA) launched the Responsible Appliance Disposal (RAD) Program in October 2006 as a voluntary partnership program to protect the ozone layer and climate system. In its first year, RAD partnered with nine utilities. Six years later, RAD has grown to include 50 partners: 43 utilities; 4 retailers; 1 manufacturer; and two state affiliates. Utility partners represent 26 states across the country. From 2007-2011, RAD partners have helped recycle nearly three million appliances.

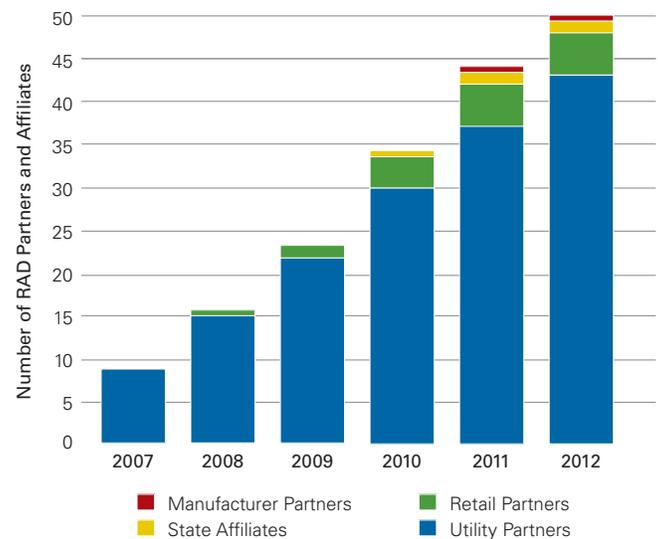
How It Works

Through the RAD Program, partners collect old refrigerant-containing appliances (refrigerators, freezers, window air-conditioning units, and dehumidifiers) from consumers and responsibly dispose of them with the help of an appliance recycler. The appliance recycler uses best environmental practices to ensure that:

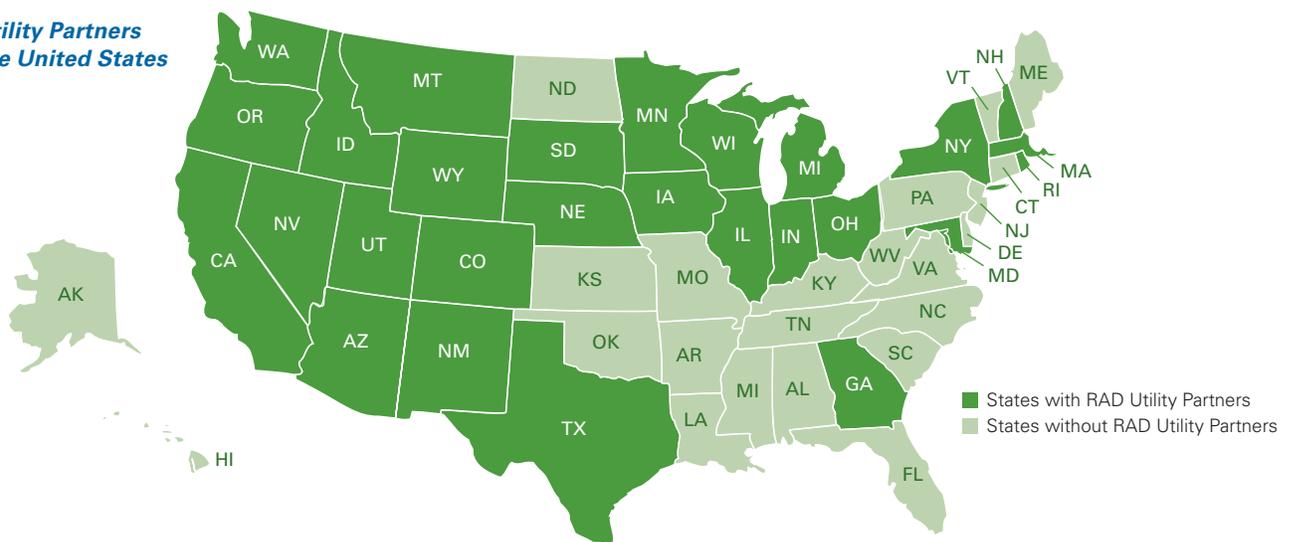
- Refrigerant is recovered and reclaimed or destroyed;
- Insulation foam/blowing agent is recovered and destroyed or reclaimed;
- Metals, plastic, and glass are recycled; and
- Polychlorinated biphenyls (PCBs), mercury, and used oil are recovered and disposed of properly.

Partners strive to go above and beyond the regulatory requirements under the Clean Air Act through recovery and management of insulation foam. The substance that expands the insulation foam, i.e., the blowing agent, is typically a substance that can harm the ozone layer and/or climate system if not properly handled at the appliance's end-of-life. RAD partners and recyclers have three main approaches for handling appliance foam to achieve greater environmental benefits: manual, semi-automated, and fully automated. The automated processes include recovery of the blowing agent.

RAD Program Growth



RAD Utility Partners Across the United States



RAD Environmental Benefits

✓ Climate & Ozone Layer Protection

Refrigerants and blowing agents contained in old appliances harm the Earth's ozone layer if emitted to the atmosphere. These substances also have direct global warming potentials (GWPs) of up to 10,900—meaning that they are up to 10,900 times more effective at damaging the climate system than carbon dioxide (CO₂). Recovering these materials, even in small quantities, can therefore result in significant climate benefits. Moreover, the recycling of metals, plastics, and glass from appliances prevents indirect GHG emissions associated with the generation of electricity, which would have otherwise been needed to produce virgin materials.

By recovering foam/blowing agent, refrigerant, and durable materials from 2007 to 2011, RAD partners have reduced emissions of 2.3 million pounds of substances that harm the ozone layer, and 6.4 million metric tons of carbon dioxide equivalent (MMTCO₂eq). The climate benefit achieved is equivalent to keeping approximately 1.3 million passenger cars off the road for one year.

✓ Energy Savings

Both utility companies and consumers can benefit from permanently removing old, inefficient appliances from the electricity grid. On average, refrigerators collected by utility partners in 2011 were over 20 years old. From 2007 through 2011, RAD utility partners reduced total energy use by roughly 13 billion kilowatt-hours (kWh), equivalent to nearly 9 MMTCO₂eq. This has saved consumers across America a cumulative total of \$1.5 billion.

✓ Other Environmental Benefits

RAD partners safely dispose of hazardous materials such as used oil, capacitors, and mercury-containing components. Used oil can leak into groundwater and major waterways and pollute drinking water sources. Electrical components such as old capacitors and thermostatic switches may contain PCBs and mercury, respectively—both of which are toxic substances that cause a variety of adverse health effects. By preventing these substances from being released into the environment, RAD partners are playing an important role in improving the health of the communities they serve.

For more information, please visit <http://www.epa.gov/rad/> and see our list of RAD partners at <http://www.epa.gov/rad/radpartners.html>.

**Typical Refrigerator
Manufactured Prior to 1995**

