

# Designing and Implementing an Effective Appliance Recycling Program

Jack Cameron  
President and CEO  
May 7, 2008



---

---

---

---

---

---

---

---

## Why Appliance Recycling?



---

---

---

---

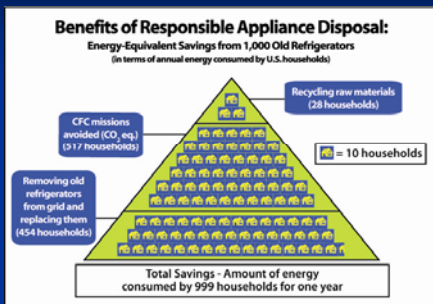
---

---

---

---

## Energy Savings Opportunities



---

---

---

---

---

---

---

---

## Energy Savings Potential in Texas

8.5 million customers statewide  
x 2% participation rate  
x 1,868 kWh/yr (gross) for 10 years  
= 1,710,000 kWh  
@ 8,900 kWh/yr average household use =

**Enough to power  
356,809 homes for 1 year**



---

---

---

---

---

---

---

---

## Cost-Effectiveness of Program

- 650-1,200 kWh/unit
- 7-10 years measure life
- Cost of ~ \$150.00-\$200.00
- Cost of conserved energy \$0.02- \$0.03
- Benefit to cost ratios 1.5 – 4+



---

---

---

---

---

---

---

---

## Environmental Benefits

- Reduce energy consumption
- Reduce emissions of ozone-depleting substances and greenhouse gases
- Prevent release of PCBs, mercury and oil
- Save landfill space
- Recover scrap metal and other recyclables
- EPA Responsible Appliance Disposal (RAD) Program



---

---

---

---

---

---

---

---

## Customer Satisfaction

- Typically 90+% in long-term programs
- 2005 survey conducted by Creative Consumer Research for Austin Energy asked participants:  
*How does the availability of the Refrigerator/Freezer Recycling Program make you feel about Austin Energy?*
  - 95% said "More Positive"
  - 5% said "The Same"



---

---

---

---

---

---

---

---

## Program Design Considerations



---

---

---

---

---

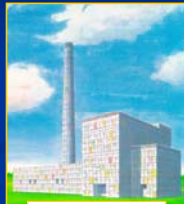
---

---

---

## Utility Considerations

- Regulatory approval
- Management support
- Residential customer base (average 2% harvest)
- Service territory
- Budget



The Best New Power Plant Is the One You Don't Have to Build



---

---

---

---

---

---

---

---

## Appliance Considerations

- Types: Household refrigerators, freezers, room air conditioners
- Status: Operational and cooling
- Size: 10-27 cu. ft. (refrigerators and freezers)
- Quantity: Multiple units (average 1.2 units/pickup)



---

---

---

---

---

---

---

---

## Incentive Considerations

- Motivation
  - Increase participation levels
  - Encourage customers to be at home for scheduled appointments
- Determining most cost-effective dollar value for incentive (\$35-\$50)



---

---

---

---

---

---

---

---

## Program Timing Considerations

- Spring or early summer launch
- Seasonal or short-term programs
  - Low volumes
  - Climate
- Seasonality – 4Q and 1Q lower customer participation



---

---

---

---

---

---

---

---

## Contractor Selection Considerations

- Experience
- Infrastructure
- Financial backing
- History of regulatory compliance



---

---

---

---

---

---

---

---

## Program Implementation



---

---

---

---

---

---

---

---

## Program Promotion

- Branding
- Advertising
- Launch
- Publicity



Austin Mayor Will Wynn declares March 9, 2005 Austin Energy's Refrigerator Recycling Day at a press conference for the recycling center's grand opening.



---

---

---

---

---

---

---

---

## Program Promotion



- April kick-off of Oncor program
- Retail Electric Providers (REPs) advised of program and invited to sponsor local promotions
- Bill inserts for REPs to promote program to their customers in monthly energy bills



---

---

---

---

---

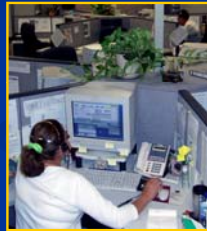
---

---

---

## Program Enrollment

- Designed for customer convenience
- Toll-free phone number, extended call center hours, multi-lingual agents
- Interactive website for self-scheduling pickup
- Confirmation letter
- Reminder phone call



---

---

---

---

---

---

---

---

## Appliance Collection

- Professional personnel - photo IDs and background checks
- Verification that appliance meets qualifications
- Permanently disable appliance
- Appliance removal from customer's home
- Stringent auditing procedures



---

---

---

---

---

---

---

---

## Energy Monitoring

- In home measurement
- Recycling center monitoring
- Lab metering



---

---

---

---

---

---

---

---

## Processing and Recycling

- Hazardous materials destroyed through high-temperature incineration - capacitors, ballasts, batteries
- Recyclable materials – CFC/HCFC refrigerants, oil, mercury, plastic, glass, metal
- CFC-11 from polyurethane foam insulation



---

---

---

---

---

---

---

---

## Data Management and Reporting

- Scheduling and routing software
- On-demand access to data and reports on real-time basis via secure Web page
- Standard and customized reports on virtually all aspects of program



---

---

---

---

---

---

---

---

## Common Elements of Successful Appliance Recycling Programs

- Support of program sponsor
- Part of larger spectrum of efficiency programs
- Program branding, marketing and advertising
- Easy access and convenience for customers
- Strict adherence to program requirements
- Experienced contractor



---

---

---

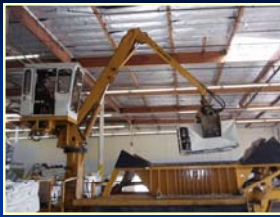
---

---

---

---

---



For Information, Contact:

**Bruce Wall**  
bwall@arcainc.com  
1-203-265-9125

**Jack Cameron**  
jcameron@arcainc.com  
1-800-452-8680

**Rachel Holmes**  
rholmes@arcainc.com  
1-800-452-8680



---

---

---

---

---

---

---

---