

Load Reduction or Load Growth It Matters How You Design Your Program

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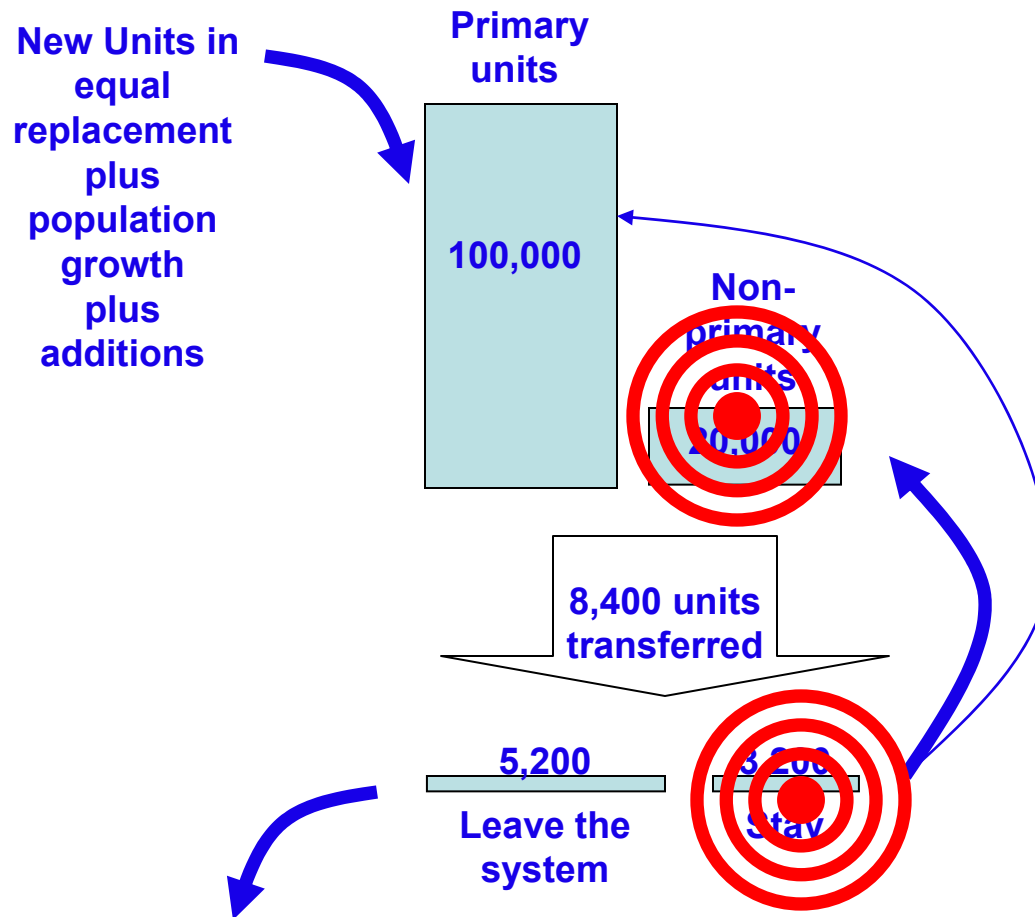
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Some Interesting Approximations Relating Households and Refrigerators

Households	Percent	In the US	Per 100,000 customers	Per million customers
With a second refrigerator	20	22.7 million	20,000	200,000
That transfer* a refrigerator annually	7	8 million	7,000	70,000

* That get rid of a refrigerator because they bought a new one or because they got rid of an existing one.

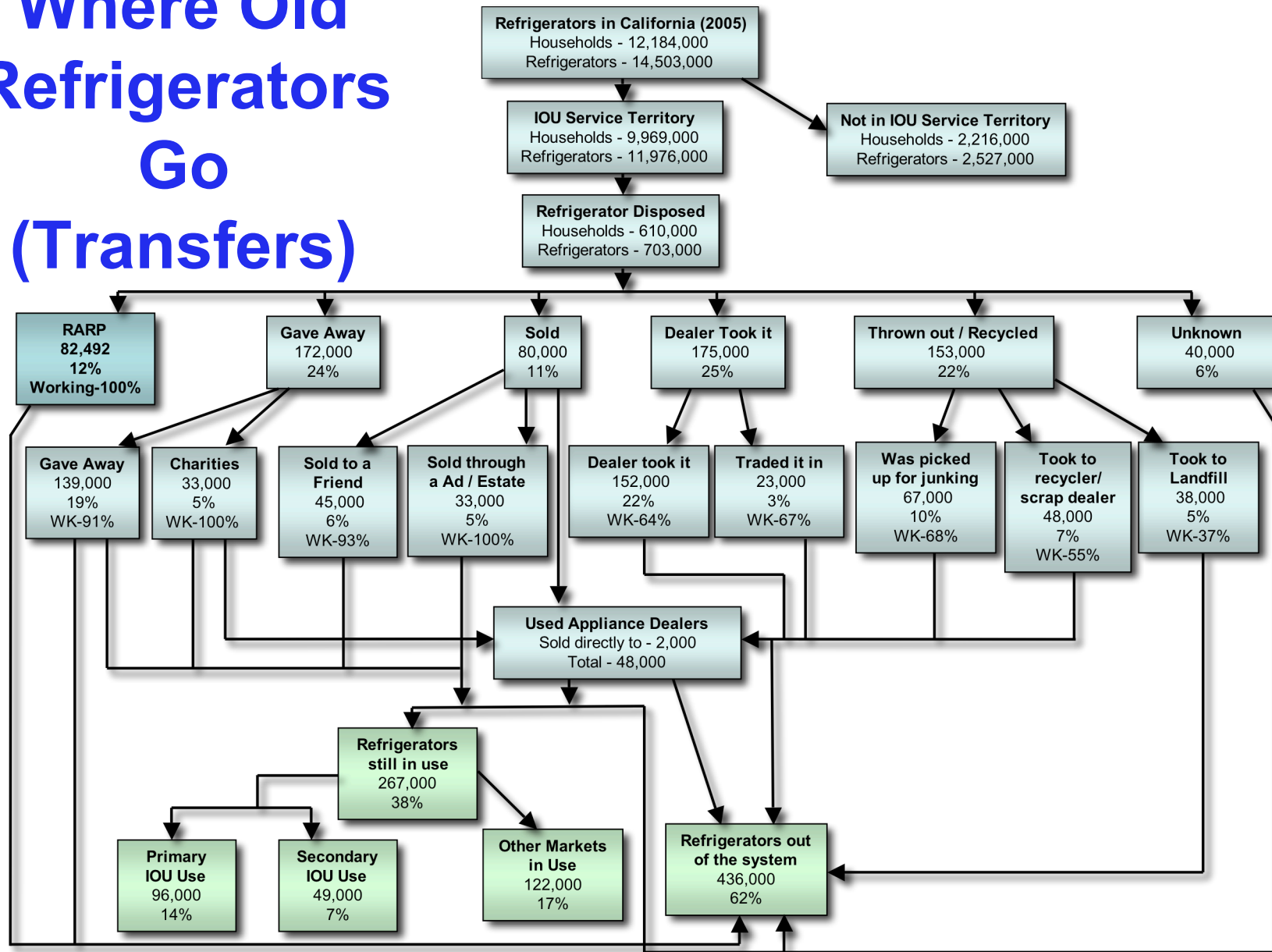
A Year in the Life of the Refrigerators in 100,000 Homes



Households with a Second Refrigerator Are More Likely to Have

- An area greater than 2000 square feet
- Electricity consumption greater than 6,000 kWh and especially greater than 8,000 kWh
- The same residents for more than 10 years
- Two adults with no children in their 50s and 60s
- Recent remodel
- Income greater than \$75,000

Where Old Refrigerators Go (Transfers)



Run a Load Reduction Program Not a Load Growth Program

- A refrigerator incentive program without recycling is a load growth program
 - A new unit transaction (Energy Star versus Standard (-150 kWh))
 - An Energy Star replacement without a removal (+ 400 kWh and you missed an opportunity to reduce the load by 1000 kWh)
 - A replacement with an operational removal (-1000 kWh)
 - Removing an operational old unit and not replacing it (The Holy Grail -1400 kWh)
- The first life of a refrigerator is 14 years — The second lives of refrigerators are forever (well sorta)

There is a lot of wailing and gnashing of teeth about
net-to-gross

Many studies suggest that the net-to-gross is about:

~~.35~~

They are wrong, it is really around

.60

Take away — Tie your incentives to recycling, for example

- A new unit transaction \$50.
- A replacement without a removal \$50
- A replacement with an operational removal \$300
- A removal of a unit greater than 15 years old \$200
- Families receiving weatherization or energy bill assistance with an old unit more than 15 years old. Replace it outright with a quality equivalent or next step up equivalent.

The Effects of Refrigerator Recycling

- Grid effects (You don't have to build that power plant and reinforce the grid)
- Grid emission effects (Reduce the stacks)
- Environmental effects (if you own beach property you will appreciate this and the polar bears thank you)
- Citizens pocket book effects
 - The capital by-down (Modest)
 - The operational savings (Potentially huge but you have to remind them to hug you when they see you)
- Honey I cleaned the (basement) garage today
- ⁹“Loss” leader to other efficiency actions

Characteristics of an Effective Program and Accountable Program

- Marketing
- Tracking
- Logistics
- De-manufacture
- Customer Care

Marketing (Its about Customer Care)

- An incentive is not enough — Its about the customer doing the right thing and reminding them to feel good.
- Vigorous Marketing
- Utility top methods of getting to the customers
 - Bill Insert 30 percent
 - Friends and neighbors 17 percent
 - Info in a letter from the utility 10 percent
 - Appliance Store 8 Percent
 - Website 7 percent
 - TV 5 percent
 - Other stuff

Marketing Themes

- Tell them how it works
- Emphasize Convenience
- Customer operational savings in addition to the incentive
- Tell'em why it is important. Hold down future electricity costs. The environment and global warming (the CFC's don't end-up in the environment)
- Tie something else into it. A smart power strip, CFLs or a high quality LED lamp.

Tracking = Accountability

- Do it in real time
- Do it electronically (no paper)
- Do it directly and through appliance dealers
- Track
 - Customer
 - Characteristics of the customer unit
 - Unit (model and serial number)
 - The fateful journey of the unit (i.e., chain of custody)
 - The incentive
 - Pictures of the name plate anyone.
- Whether for practice or for real you track those TCE's

Logistics — Get Those Puppies Quick — A Waiting Unit Is a Unit on The Grid Forever

- Know who your customer is and where they are when they call
- Route your pick-ups electronically
- Use real time communication to manage your schedule and input your data - chain of custody starts at the pick-up
- Verify units as operable
- Get them in less than a week
- Avoid the number one newbie mistake! Don't let your marketing our run your logistics capability

Logistics — Have the appliance dealer retrieve it when she delivers the new unit

- Train the appliance sales staff on the program
- Provide literature
- Have the sales person sign up by computer while in the store
- Use a non-removable sticker with an order number to assure chain of custody.
- Do your QC

De-manufacture

- Every unit is de-manufactured (absolutely no exceptions)
- Capture the refrigerant and have it disposed safely
- Get the other toxics out of the unit (mercury and pcbs from older units)
- The foam has CFC's don't forget
- Track the unit into the facility and document its death!

It's about customers

- They are the king
- On their schedule
- At their convenience
- Do good pick-ups
- Be ready for Franny

It's about partners (utilities, appliance dealers, community organizations, advocacy groups)

- Talk to them
- Motivate them
- Train them
- Use them wisely