

ENERGY STAR Dishwashers

Campaign Possibilities for 2006



Dishwasher Market Snapshot

- 2004 ENERGY STAR market share at 78%
- Small per-unit savings (\$9-10/year)
 - Not that compelling to consumers
 - EEPS interest is lagging
- Limited differentiation opportunities for industry
- Current household saturation is 59.5%



Dishwasher Stakeholder Meeting

- Currently reviewing suggestions for 2007 criteria
 - Energy Factor (EF)
 - Stand-by Power
 - Water Factor
 - Cleaning Performance
- Several stakeholders suggested DOE drive a campaign targeting consumer dishwashing habits



Campaign Development

- DOE has been working with Whirlpool and Procter & Gamble
- Assessing feasibility of a dishwasher campaign by asking:
 - Who would be the target audience
 - What would we be asking them to do
 - How could success be quantified (i.e, energy savings, increase in sales, etc)

ENERGY STAR Dishwashers - 2006



Opportunity:

1. Increase household saturation of ENERGY STAR qualified dishwashers
2. “Scrape don’t Rinse” campaign

Encourage the Energy Savings of Dishwashers



- Industry wide campaign targeting home owners who do not own a dishwasher
- Educate consumers on the substantial water/energy savings achieved when using a dishwasher vs. hand washing
- Secondary message instructing dishwasher owners to scrape dishes instead of rinsing them before loading the dishwasher.



Technologies to Support Energy Savings

- ENERGY STAR Dishwashers
 - Sensors
 - More efficient cycles
 - Less pre-washes in low soil loads
 - Less added heat in low soil loads
- Detergent
 - Enzymes
 - Remove stuck on soils



Dishwasher Saturation Target

- 59.5% Overall Household Saturation*
- 70% Owner-Occupied HH Saturation **

Who doesn't own a Dishwasher??

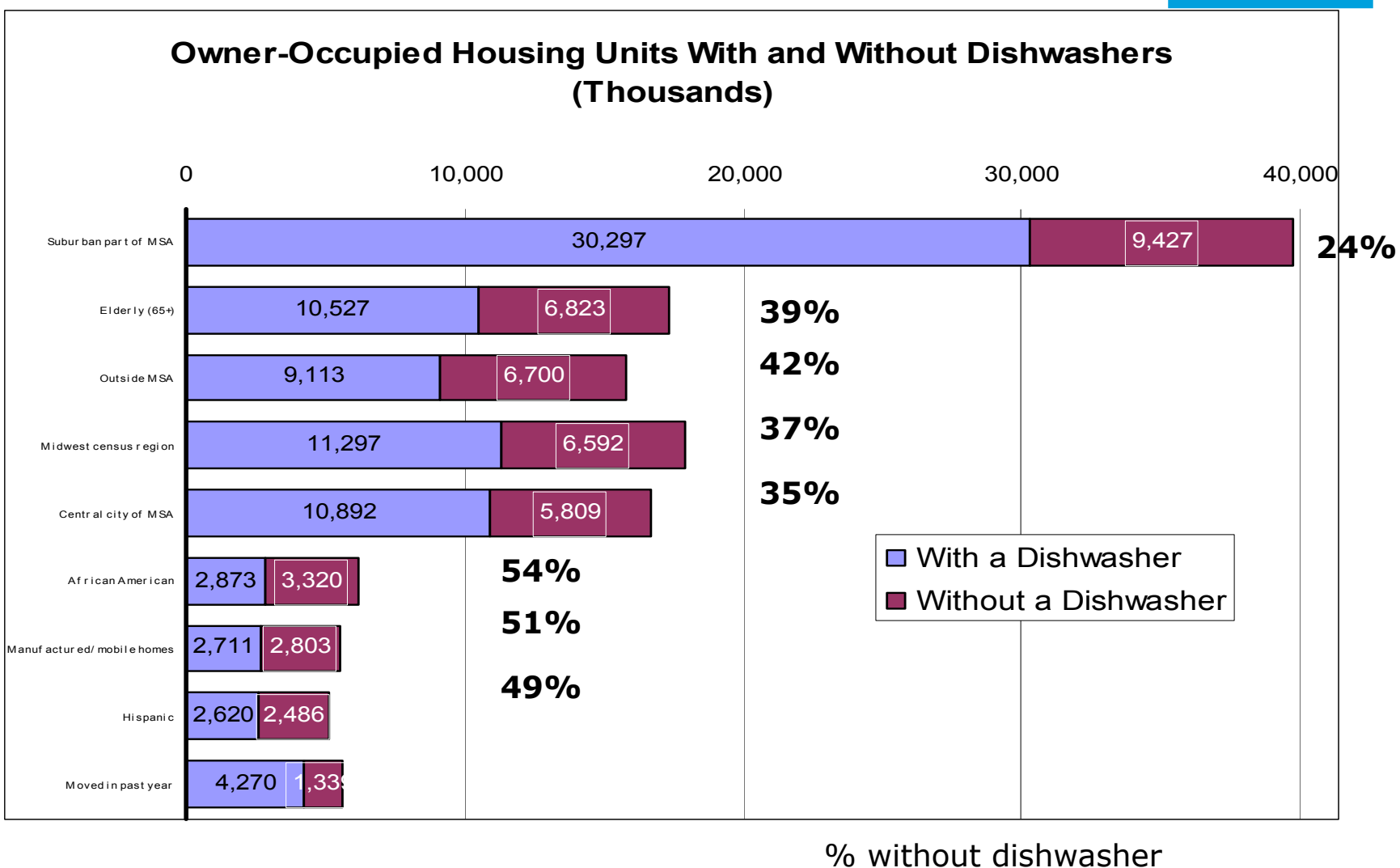
| | |
|-----------------------------|-----------|
| • Suburban part of MSA | 9,427,000 |
| • Elderly (+65) | 6,823,000 |
| • Outside MSA | 6,700,000 |
| • Midwest Census Region | 6,592,000 |
| • Central City of MSA | 5,809,000 |
| • African American | 3,320,000 |
| • Below Poverty Level | 3,272,000 |
| • Manufactured/mobile homes | 2,803,000 |
| • Hispanic | 2,486,000 |

* AHAM

** American Housing Survey 2003, U.S. Census Bureau, Housing & Household Economic Statistics Division



Who Doesn't Own a Dishwasher





Who Doesn't Own a Dishwasher

- Single person household - 50%
- Single parent household - 51%
- Young, under 30 - 44%
- Elderly, over 65 - 49%

Virginia Polytechnic Institute and State University Study (2000)
by Dr. JoAnn Emmel, et. al.



Why They Don't Own a Dishwasher

- Don't have space - 47%
- Don't want to spend the money – 33%
- Dishwashers don't clean well enough – 27%
- Don't need one – 27%
- They use too much energy – 20%

Source: Whirlpool, 2001.

Hand Washing Uses A Lot of Water and Energy



- Ohio State Study (1988-89)
 - 8 Place Settings
 - Used a total of 16 gallons of water
- University of Bonn
 - 12 Place Settings
 - Used a total of 27 gallons of water

Increasing Dishwasher Saturation Saves Water/Energy

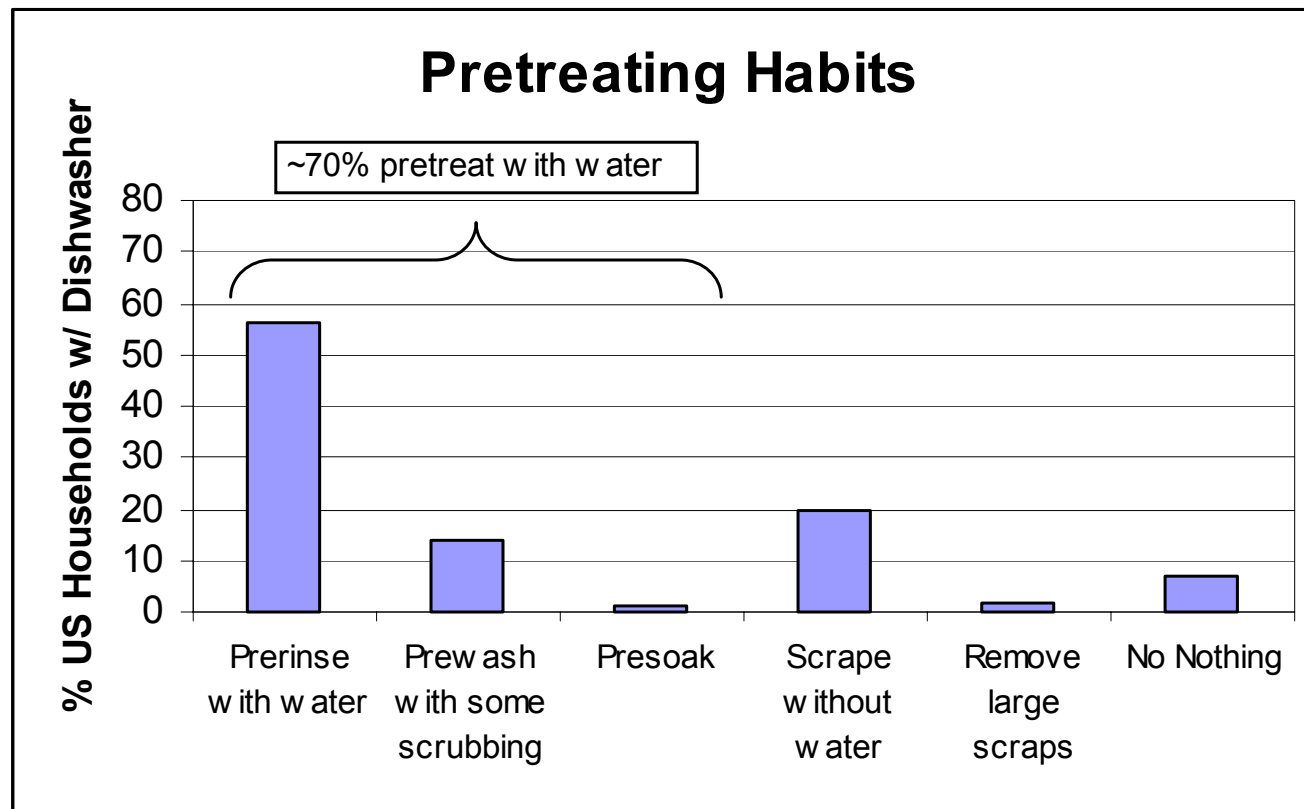


- ENERGY STAR dishwasher uses ~ 7 gallons of water on average.
- Dishwasher holds 12+ place settings of dishes
- Switching from hand washing to an ENERGY STAR dishwasher could potentially result in substantial water and energy savings
 - ~24 → 7 gallons
 - Save energy from heating water

Pre-treating Uses a Lot of Water/Energy



- ~70% of households pre-rinse dishes with water (A. Little)
- Estimate 20 gallons used to pre-rinse





Why Consumer Pre-rinse

- Dishes won't be washed right away 39%
- Dishes won't come clean 35%
- Habit 28%

Virginia Polytechnic Institute and State University Study (2000)
by Dr. JoAnn Emmel, et. al.



Scrape is Enough

- Dishwashers have improved wash systems
 - multiple spray arms so water reaches all surfaces
 - Sensors ensure sufficient purges and/or pre-washes so soils aren't redeposited
- Detergents are effective at handling soils
 - contain enzymes to break down stuck on soils
 - contain soil suspension ingredients so soils rinse efficiently



Basic Approach

- Educate consumers on the benefits of using an ENERGY STAR qualified dishwasher vs. hand washing
- Educate consumers on the water/energy savings achieved by scraping dishes instead of rinsing them before loading the dishwasher.
 - Work with retailers and manufacturers to integrate messaging into product materials
 - Work with EEPS and water utilities to educate their customers
 - DOE media outreach, PR, web, etc.

Expanding Household Saturation



- Potential goal - Increase household saturation by 1.5% (1,582,202 units)
- Potential annual savings:
 - 1.53 trillion Btu
 - 4.7 billion gallons
 - \$34.3 million



Scrape Don't Rinse Campaign

- Potential goal – Reduce number of consumers who pre-rinse by 5% (1,882,820 consumers)
- Potential annual savings:
 - 1.44 trillion Btu
 - 37.6 million gallons water
 - \$59.6 million

Win, Win, Win



- A successful dishwasher campaign could:
 - increase market for all manufacturers and retailers
 - provide opportunity to capture significant quantifiable savings
 - offer partners a cost-effective way of educating consumers to modify habits



Next Steps

- DOE will lead a working group of interested industry, retail, and EEPS partners.
- Will begin holding conversations this fall to determine possible campaign for 2006.