



# ENERGY STAR Appliances: DOE Update

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2005 ENERGY STAR Appliance Partner Meeting  
Saratoga Springs, NY  
September 29, 2005

# Overview



- Progress to Date
- Challenges we Face Today
- What's Next? - Potential Strategies for the Future

# Measurable Results

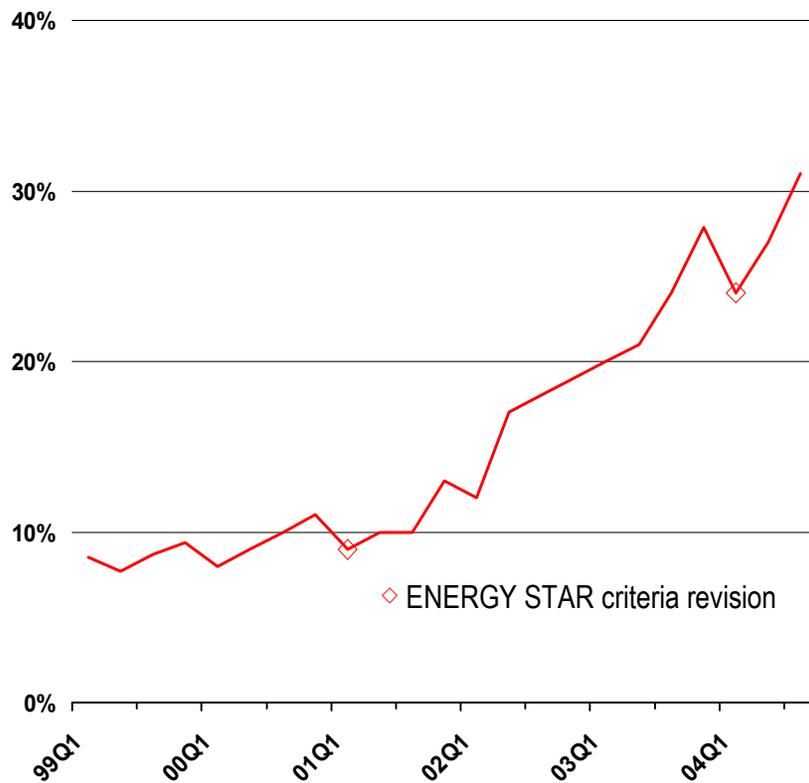


- From 2000 to 2005, **62 million** ENERGY STAR qualified appliances were sold.
- To date, these units have yielded:
  - ✓ \$3.2 Billion in consumer savings
  - ✓ 110 Trillion Btu of energy savings
  - ✓ 3.07 Million metric tons of Carbon
  - ✓ 566 Billion gallons of water savings

# Clothes Washers



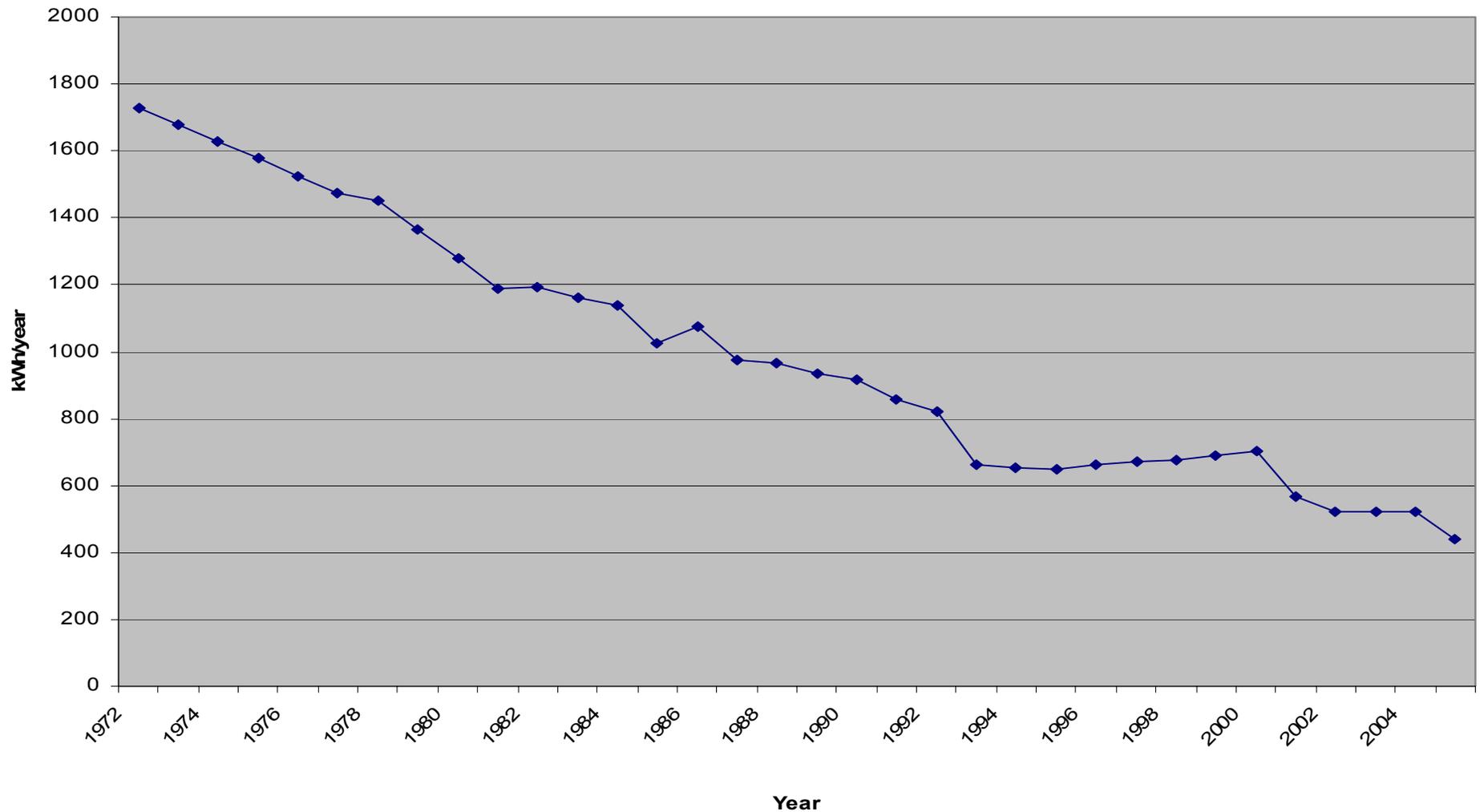
## ENERGY STAR Market Share



- Introduced in 1998
- Use 50% less energy than conventional models
- Market share increased from less than **1%** to **30%**

Source: Participating national ENERGY STAR retail partners

# Refrigerators



# Freezers/Compact Refrigerators



## Freezers

- 2,516,400 units shipped in 2004
- ENERGY STAR market penetration of 5-10% (estimated)

## Compact Refrigerators

- 1,455,000 units shipped in 2003
- ENERGY STAR market penetration of 5-10% (estimated)

# Dishwashers



- 549 unique models on the market today
- Annual market share at 78%
- It's hard to find a non-ENERGY STAR model

# Room AC



- Annual market share at 35%
- ENERGY STAR products in most sizes
- Almost all products right at the minimum level
- Criteria now cover all types of units
  - Window mounted
  - Through-the-wall
  - Slider and casement
  - Reverse cycle (heating mode)



# A Large Partner Network



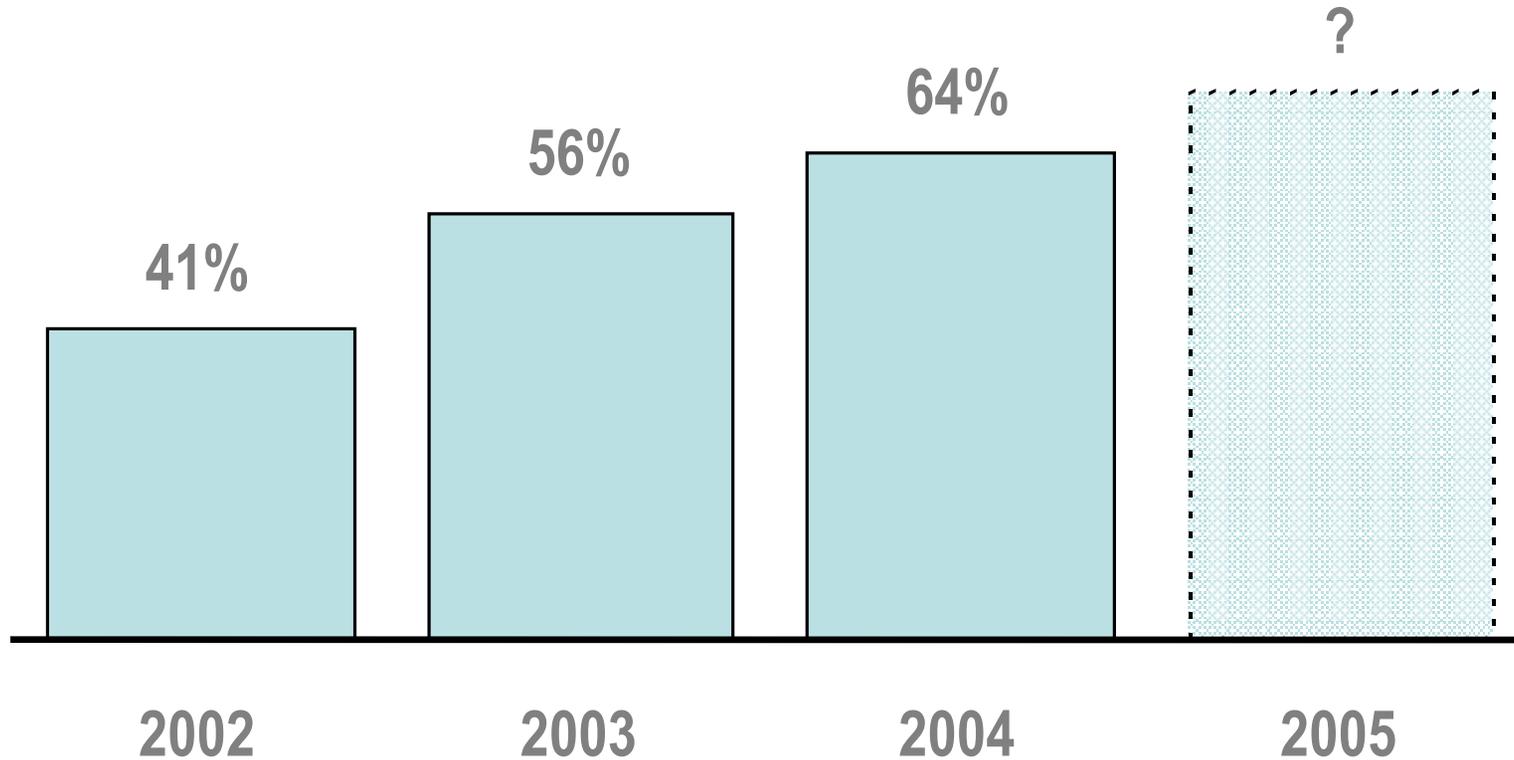
- 45 Appliance Manufacturers (99% of the market)
- Approximately 800 Retailers, with over 21,000 Storefronts
- 415 EEPS serving more than 62 million households



# Brand Awareness High and Increasing

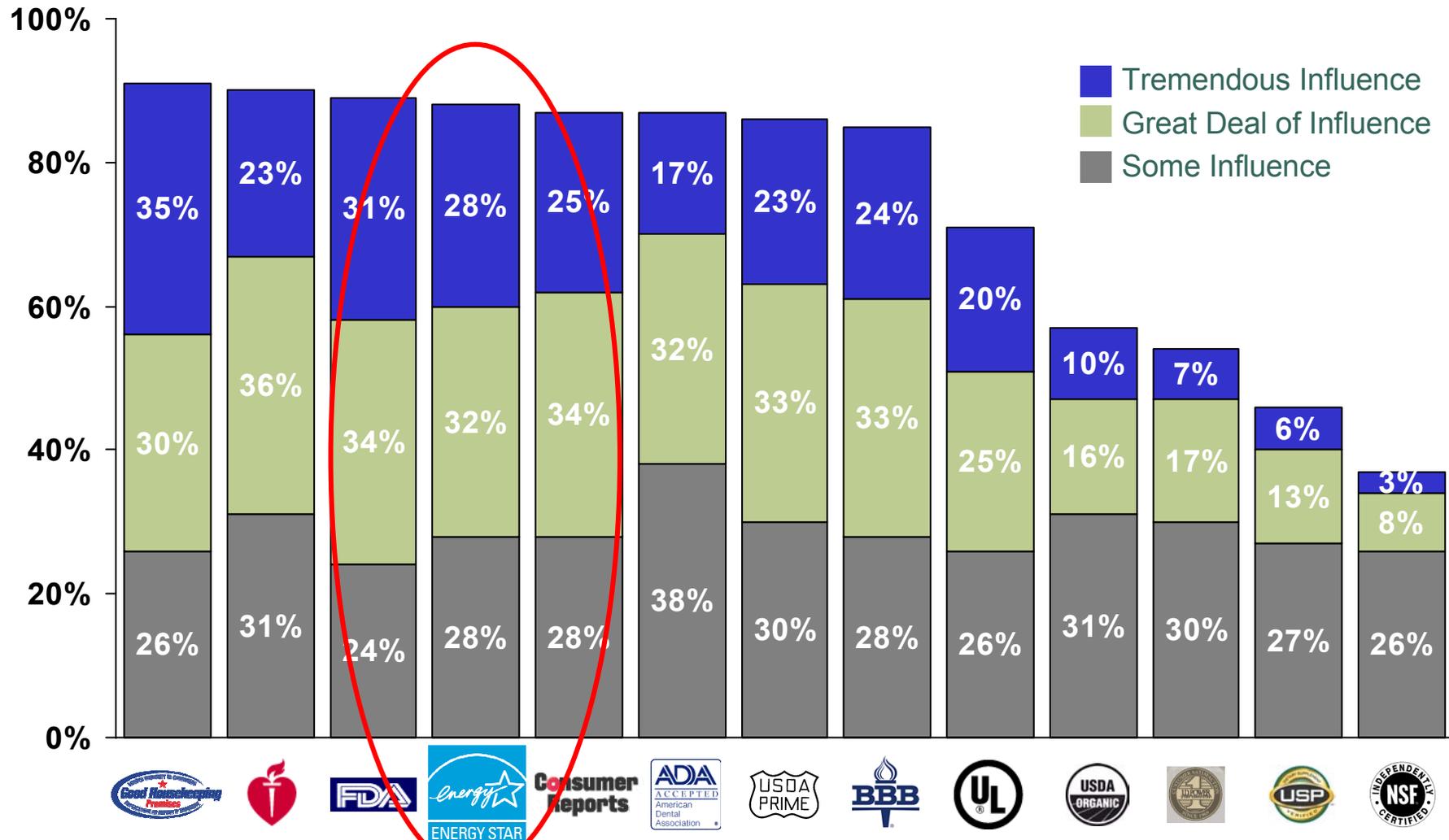


## Aided Recognition of ENERGY STAR Label



Source: Consortium for Energy Efficiency Household Surveys (2002-2004)

# Brand Influences Product Purchases



Source: Fairfield Research, May 2003

# Building Brand Awareness



- The combined efforts of Retailers, Manufacturers and Energy Efficiency Program Sponsors have built this brand equity.
  - In 2004, Retailers delivered over 20 billion impressions for ENERGY STAR overall, with over 2 billion for appliances alone.
  - EEPS help to reach consumers locally, lend additional credibility/endorsement, and provide program funding

# Retailer Activities



**Save  
15% to 40%  
with  
ENERGY STAR\***

\* According to the U.S. Department of Energy, ENERGY STAR qualified refrigerators use at least 15% less energy than required by current federal standards and 40% less energy than conventional models sold prior to 2001.

**Kenmore savings**

626-010745V-01

A badge-shaped Energy STAR logo with the word "Energy" in script and "STAR" in bold, with a star outline above the "A". Below the logo, the words "ENERGY STAR" are written in a bold, white, sans-serif font on a blue background.

**Lowe's**  
Inspiring Better Living™

**GUÍA PARA  
SOLUCIONES DE ENERGÍA**

PRODUCTOS Y PROYECTOS QUE AHORRAN  
ENERGÍA, DINERO Y CONSERVAN EL MEDIO AMBIENTE

**GRATIS**

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**You Can Cut Energy  
Costs with ENERGY STAR.**

**ASK ABOUT  
ENERGY STAR**

**SAVE UP TO \$60 ON YOUR ENERGY BILL.**  
ENERGY STAR qualified refrigerators use less energy than  
a 75-watt light bulb, saving you up to \$60 on your energy bill.

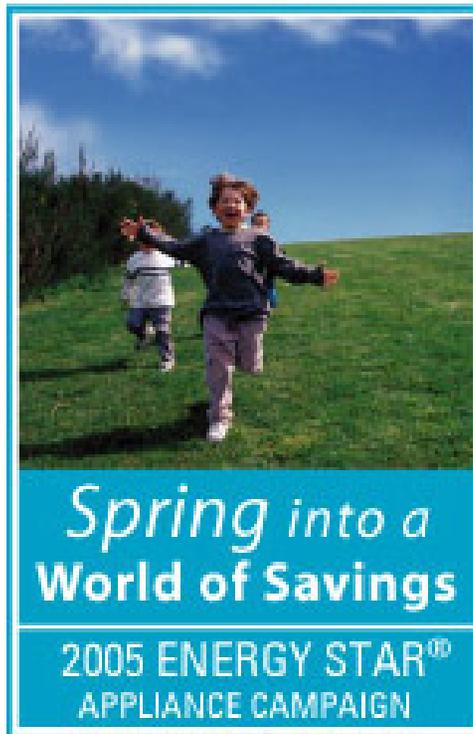
# 2003 and 2004 Appliance Campaigns



- 115,000 ENERGY STAR clothes washer rebates fulfilled
- 67,000 old, inefficient appliances retired from service and recycled
- Significant annual savings
  - 63 million kWh
  - \$7.4 million in consumer utility bills



# 2005 “Spring into a World of Savings” Appliance Campaign



# Goals of 2005 Campaign



- Provide forum for partner collaboration
- Encourage industry-driven promotions
- Stimulate a “lift” in sales of ENERGY STAR qualified appliances
- Increase consumer awareness and understanding

# Manufacturer Participation



- Five manufacturers and one distributor designed and implemented promotional campaigns:
  - Bosch
  - Fisher & Paykel
  - GE
  - Mac-Gray (Maytag commercial laundry distributor)
  - Maytag
  - Whirlpool

# Manufacturer Promotions



## CHOOSE YOUR WASHER. CHOOSE YOUR DRYER. CHOOSE YOUR REBATE.

**\$60 REBATE\*** When you purchase an EcoSmart or IntuitiveEco washer and an 08 series dryer

**\$100 REBATE\*** When you purchase an EcoSmart washer and SmartLoad dryer

**\$200 REBATE\*** When you purchase an IntuitiveEco washer and SmartLoad dryer

\*See rebate form for promotional dates and other details



Through superior design and system features, ENERGY STAR qualified clothes washers clean clothes using 50% less energy than standard washers. Full-sized ENERGY STAR qualified washers use 18-22 gallons of water per load, compared to the 40 gallons used by a standard machine.

Fisher & Paykel  
INNOVATIVE DESIGN

Upgrade your equipment now with the

# MAYTAG \$350 ENERGY REBATE

Get cash back, cut utility costs and improve the environment.

A Kitchen You'll Love to *Save* in

**MAYTAG**

"Choose energy-efficient products that have earned the ENERGY STAR®. It's an easy way to protect the environment while also saving money."



spring into a world of savings

Purchase any select GE Profile™ or GE® ENERGY STAR®-qualified washer in the month of May and receive a \$50 rebate!



An Offer Too Big to Pass By

Receive up to 3 years supply of FREE Tide® HE when you purchase select Whirlpool® High Efficiency laundry pairs

3 Years Free Tide® HE  
1 Year Free Tide® HE  
6 Months Free Tide® HE

Hurry. Offer ends May 31, 2005 | See stores for details

Best Selling Laundry Brand In The World® | www.whirlpool.com

**BOSCH** Invented for life

## LOOK FOR THE STAR

Get cash back by mail on the purchase of select ENERGY STAR qualified clothes washers.

# Get \$100 back by mail.

Now's the time to BUY your clothes washer you want \$100 per \$1000 more in your own purchase of select ENERGY STAR qualified clothes washers, April 23 through July 31, 2005 from Bosch. Please see Energy Star website for details.

### HOW TO GET YOUR CASH-BACK REWARD

- PURCHASE** a select ENERGY STAR qualified clothes washer from Bosch in the US.
- COMPLETE** the ENERGY STAR Cash-Back form and mail it to:
- MAIL IN:**
  - Consumer Service form
  - One of your most recent utility bills

See Energy Star website for details.

MODEL	MODEL	MSRP	MSRP
BOSCH-WASHER	WFL40000US	\$1000	\$1000
BOSCH-WASHER	WFL40000US	\$1000	\$1000
BOSCH-WASHER	WFL40000US	\$1000	\$1000
BOSCH-WASHER	WFL40000US	\$1000	\$1000

See Energy Star website for details.

# Retailer Support



- Over 2,527 retail stores across the country
- 118 million ENERGY STAR impressions
- Over 520,000 retail sales associates had access to training materials.
  - Article in Sears' *Sales Today* magazine
  - Home Depot developed in-store video training spot

# Retail Efforts



CUTTING YOUR ENERGY COST IS EASY.  
JUST LOOK FOR THE STAR.



You can do it.  
We can help.

# EEPS

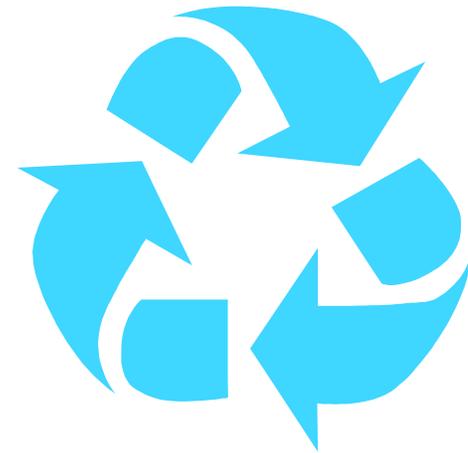


- Wisconsin Focus on Energy, Minnesota Power, and select Northeast Energy Efficiency Partnership sponsors participated in industry-driven promotions.
- Northwest Energy Efficiency Alliance sponsored a regional “Spring Into Savings” consumer sweepstakes.
- Nevada Power and Sierra Pacific alerted customers to manufacturer-driven ENERGY STAR offers.

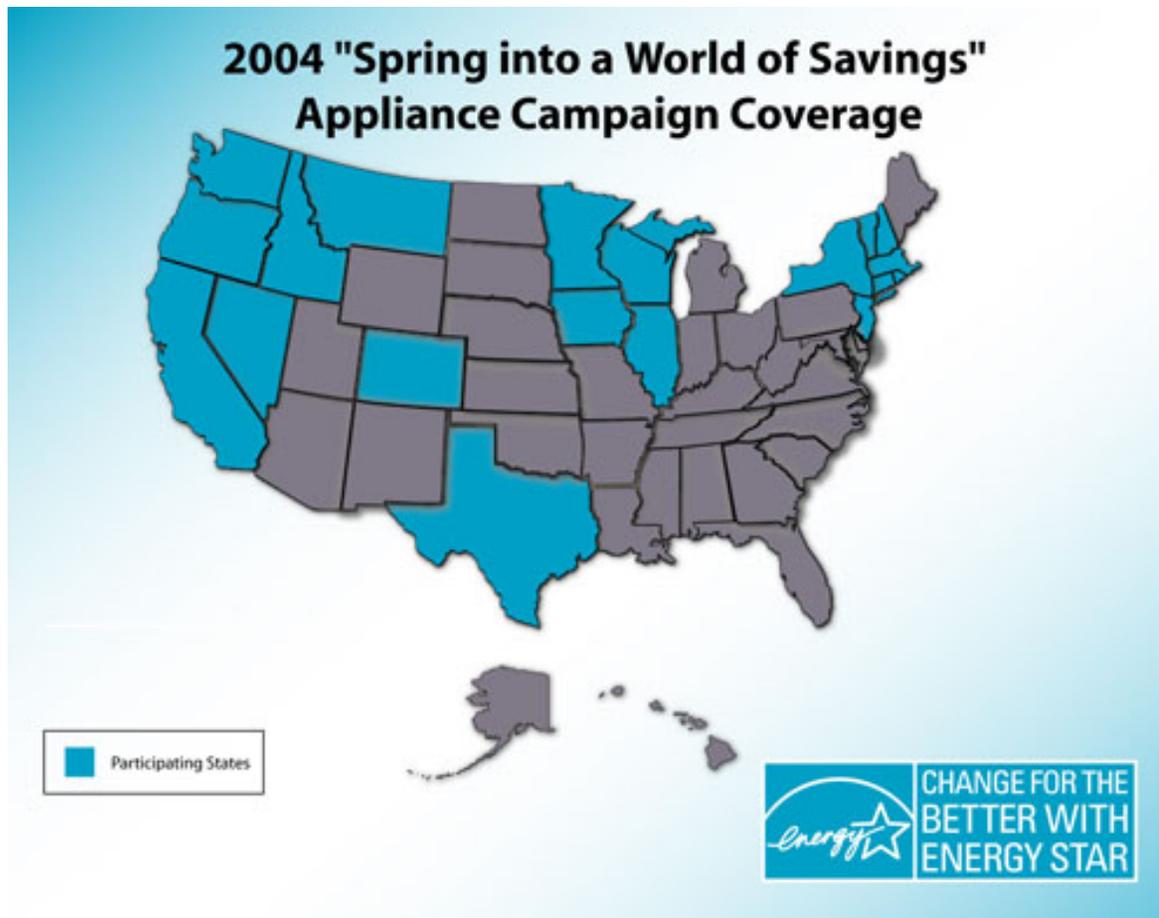
# Appliance Recycling



- 27 EEPS executed appliance recycling activities
- At least 11,681 old appliances were removed from the grid
  - Saved nearly \$900,000 per year
  - Reduced energy use by 10.44 million kWh per year



# Coverage in 2003/2004

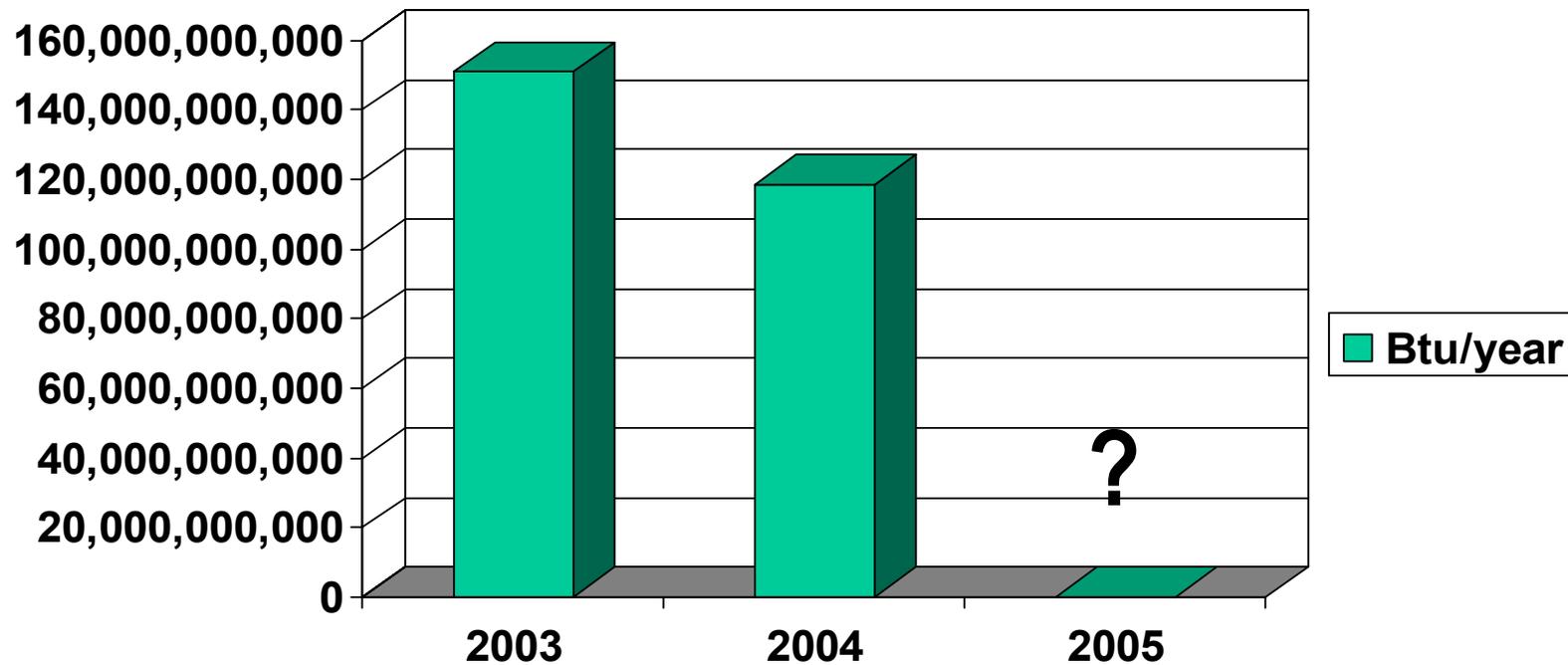


# Activity in all 50 States



**Maytag, and Whirlpool executed their promotions nationally**

# Campaign Results – Btu Savings



# Partner Feedback



- Industry-driven campaigns were well received by all Partners
- The planning timeline made it challenging for EEPS to respond to industry proposals
- EEPS still interested in retirement/recycling, but market has not moved forward or become sustainable
- The Appliance Collaborative is a useful forum for sharing info, but could do even more to facilitate cooperation

# Challenges We Face Today



# Increasing Market Share



- Reduced market potential and cost effectiveness for EEPS
- Reduced differentiation among products for manufacturers and retailers

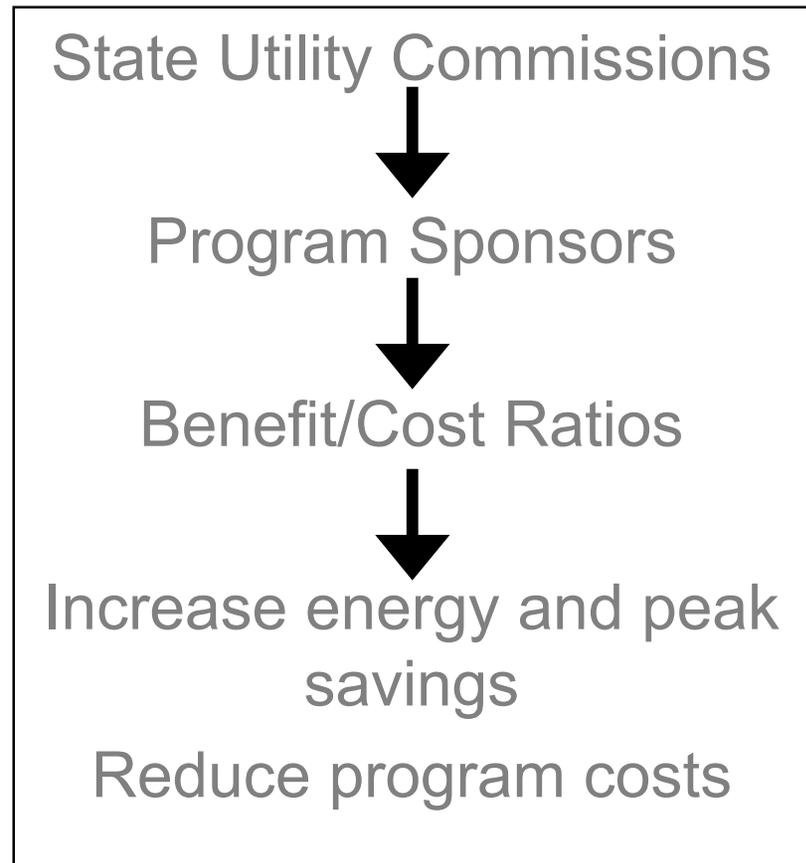
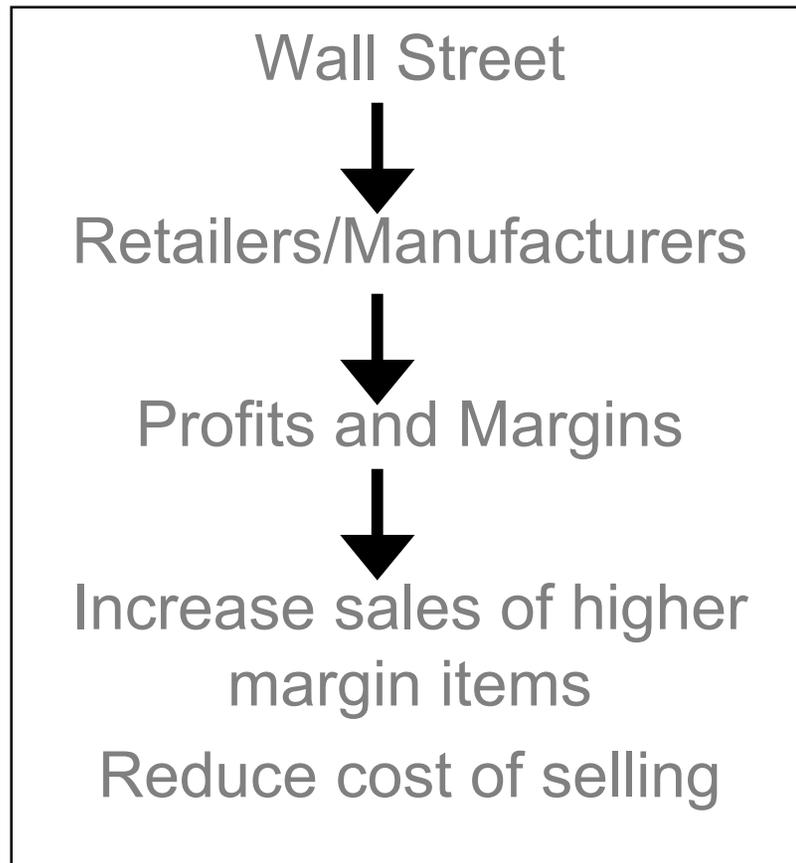
# Small Per-unit Savings for Consumers



- Compared to a new standard efficiency model:
  - ENERGY STAR Refrigerator saves: **\$7** per year
  - ENERGY STAR Dishwasher saves: **\$10** per year
  - ENERGY STAR Room AC saves: **\$6** per year

Only Clothes Washers still offer compelling savings of \$45 – 55 per year (at current criteria)

# Market Pressures



# Utilities Interested in Peak Savings



- Growth in power demand has forced EEPS to shift their priorities:
  - More focus on products that reduce summer peak
    - Second refrigerators, Room AC
    - Central AC, ducts, whole-house upgrades
  - More focus on programs that allow easy quantifying of energy & peak savings

# Tracking Results



- No 2005 Sales Data in from retailers yet
- Limited data shared from 2005 Appliance Campaign

**Both DOE and EEPS need sales data to measure impacts and justify expenditures.**

# Consumer Behavior



- To achieve greater energy savings from appliances, we need to change consumer behavior:
  - Retire the old refrigerator when a new unit is installed (instead of moving it to the garage)
  - Scrape dishes before loading the dishwasher (instead of rinsing them)
  - Select the appropriate size Room AC unit (instead of buying the biggest one on the shelf)
  - Wash clothes in cold water

# Where Do We Go Next?



# Near-term Priorities



1. Enhance criteria for existing products (and add new relevant products)
2. Expand collaboration among Partners on products of common interest
3. Improve data gathering and tracking
4. Promote “systems” or whole-house approach
5. Refine consumer education efforts to spur changes in behavior



# Updating ENERGY STAR Criteria



# Clothes Washer Criteria



- DOE is in the final stages of the criteria setting process
- Proposed specification for 2007
  - Modified Energy Factor  $\geq 1.72$
  - Water Factor  $\leq 8.0$
- Significant savings for consumers and EEPS
  - 152 kWh/year
  - 8 therms per year
  - 7,245 gallons of water per year

# Dishwasher Criteria



- Currently reviewing suggestions for 2007
  - Energy Factor (EF)
  - Stand-by Power
  - Water Factor
  - Cleaning Performance
- For instance, adopting an EF of 0.65 would save a consumer:
  - 136 kWh per year (with electric water heating)
  - 3.25 therms per year (with gas water heating)
  - 860 gallons per year

# Other Product Updates



- **Refrigerators:** No changes at this time – DOE will continue to monitor market share and new efficient technologies
- **Room AC:** Expansion to include models with reverse cycle will be released soon and be effective in Fall 2005.
- **PTACs:** Market impact analysis on an ENERGY STAR criteria to be distributed later this fall.
- **Dehumidifiers:** Updated criteria have been released and will take effect October 2006.

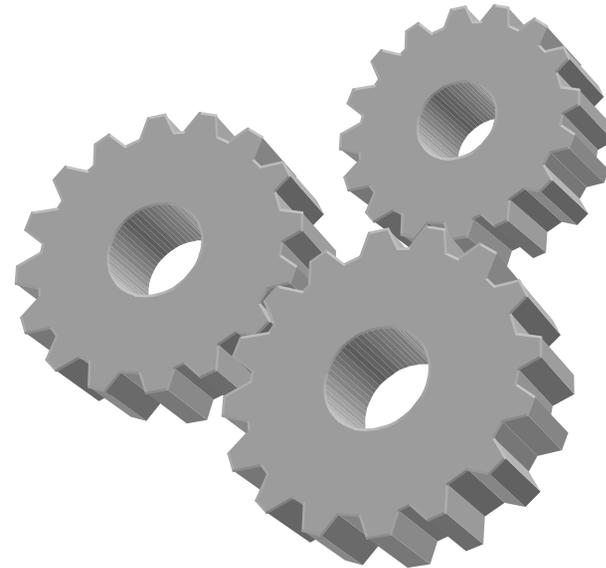
# High-Performance Water Heaters



- Continuing to look at the feasibility of labeling water heaters.
- The Department is looking at:
  - Technologies currently available
  - What it will take to commercialize new technologies
  - Coordination with other DOE programs, such as Building America and our water heater R&D
  - Working with you



# Partner Collaboration



# General Approach for 2006



- **Ongoing Product Promotions**
  - Select product(s) of strong interest to all Partners
  - Co-fund activities to share costs and expand reach
  - Conduct throughout the year, as appropriate
  - Manufacturer-driven with input from EEPS and Retailers
- **Seasonal Outreach Campaign**
  - Educational message
  - Single and clear call to action
  - Defined time period, selected based on message
  - DOE PR as anchor, Partners tie in to meet their own needs

# Key Partner Commonalities



- New or advanced technology
  - Differentiation & higher margins for manufacturers & retailers
  - Sometimes higher efficiency, e.g., clothes washers
- Early retirement
  - Get inefficient products off the grid (EEPS)
  - Promote new (efficient) product sales sooner
- Leveraging third-party resources/\$
- Promotion/program cost-effectiveness

# Potential Areas for Cooperation



- 1) Promoting 2007 level clothes washers
- 2) Encouraging early retirement of pre-1993 refrigerators (both primary and secondary units)
- 3) Educating consumers on the benefits of using dishwashers properly
- 4) Promoting room AC recycling and replacement during the summer cooling season

# 1. Clothes Washer Promotion



- Target 2007 qualified models in 2006
- Use ENERGY STAR as messaging platform
- Year-round activity
- Manufacturer-driven
- Strong retail execution
- EEPS cost-sharing of incentives and marketing

# Clothes Washers – Potential Approach



- EEPS shift incentive funds “upstream” and cost-share rebates and/or marketing for 2007 models
- EEPS provide sufficient lead time for manufacturers to prepare projects
- Manufacturers identify preferred models, promotional elements, and timeframe
- Manufacturers work with retailers to execute
- EEPS track results through rebates or sales data

# Stakeholder Benefits



- **EEPS:** More targeted promotion, increased savings per unit, decreased likelihood of free-ridership
- **Industry:** Flexibility to strategically promote key/high-margin models
- **Retail:** Increased clothes washer dollar sales, opportunity for significant up-sell

## 2. Outreach Campaign: Refrigerators



- **Action: Retire your pre-1993 Refrigerator**
  - Primary unit (Replace with ENERGY STAR)
  - Secondary unit (Only replace if necessary)
- Significant installed base of older units
  - 33.8 million households have primary units older than 1993
  - 18.1 million households have 2 refrigerators
- Significant savings from replacing these units
  - 657 to 802 kWh per year
  - \$55 to \$70 per year

# Refrigerators – Potential Approach



- DOE PR/Media outreach to drive awareness
- EEPS Activities:
  - Education of customers
  - Pick-up and recycle old units, or bounty to retailers who pick-up units
  - Incentives for ENERGY STAR replacement units
- Retailer Activities:
  - Education of customers
  - Pick-up and recycle old units when delivering a new one
  - Promote ENERGY STAR replacement models – primary, secondary, mini
- Manufacturer Activities:
  - Education
  - Promote ENERGY STAR replacement models

# Stakeholder Benefits



- **EEPS:** Remove inefficient units from grid, reduce peak load
- **Industry:** Increase demand for replacement ENERGY STAR refrigerators, increase demand for compact refrigerators, decrease product life-cycles
- **Retail:** Increase demand for replacement ENERGY STAR refrigerators, decrease product life-cycles

# 3. Outreach Campaign: Dishwashers



- Expand Household Saturation of Dishwashers
  - Saves energy and water compared to hand washing
  - Only 59% of households have a dishwasher
- “Scrape--Don’t Rinse” Campaign
  - 60% of dishwasher owners rinse dishes before loading the dishwasher
  - Pre-rinsing can use up to 20 gallons (twice the amount used by the dishwasher itself!)

# Dishwashers - Potential Approach



- DOE documents savings & prepares messages
- EEPS/Water Utilities
  - Consumer education
  - Incentives for ENERGY STAR models meeting 2007 criteria
- Manufacturers/Retailers:
  - Consumer education
  - ENERGY STAR Dishwasher product promotions

# Stakeholder Benefits



- **EEPS:** Untapped source of potential energy savings, relatively low-cost educational effort
- **Industry:** Increase size of dishwasher market
- **Retail:** Increase number of dishwashers purchased, potential secondary sale

## 4. Room Air Conditioners



- Promote retirement/recycling of older units and replacement with new ENERGY STAR models

# Room AC – Potential Approach



- Promote Room AC during the “Cool Your World” campaign
- National Turn-in Event – early Summer
  - EEPS sponsor, promote, provide incentives for replacement units
  - Retailers could host at stores
- In-store Promotions
  - Stocking of qualified models
  - Special signage, displays, family events

# Cool Your World 2005



- Encourages Americans to choose ENERGY STAR qualified cooling products to save energy, stay comfortable, and protect our environment
  - Memorial Day through Labor Day
  - Includes **Room AC** and **Dehumidifiers**, as well as ceiling fans and programmable thermostats
- Highly successful outreach effort
  - Total media impressions > **100 million**
  - Flurry of retailer educational activity

cool your **world**  
with **ENERGY STAR**



# Cool Your World PR Results



## Media Placements:

- CNN Live Today
- Hometalk USA
- *Southern Living*
- *Redbook*
- *Newsweek*
- *The Washington Post*
- CNNmoney.com
- Weather.com
- The Associated Press

## Total Impressions:

- Print: 13,954,619
- Internet: 82,567,481
- TV (B-roll): 12,415,442
- TV (SMT): 2,867,910
- Radio (RNR): 12,322,020
- Total Known Placements:  
126,945,762

# Stakeholder Benefits



- **EEPS:** Leverage national campaign, remove inefficient room AC units from grid, reduce peak load
- **Industry:** Leverage national campaign, increase sale and awareness of ENERGY STAR qualified units
- **Retail:** Increase foot traffic through store events, increase sale and awareness of ENERGY STAR qualified units

# Potential Savings



<b>Opportunity</b>	<b>Btu Savings/Year</b>	<b>Dollar Savings/Year</b>
Dishwashers	2.26 Trillion	\$36.5 Million
Refrigerators	1.25 Trillion	\$31.5 Million
Clothes Washers	733.8 Billion	\$21.9 Million
Room AC	11.7 Billion	\$296,511

# Summary



- Four strong opportunities
- Need partner input to evaluate potential interest
  - Discuss today and tomorrow
  - Convene interested Partners for additional discussion and planning