

Appliance Standards and
Alternatives:
A Manufacturers Perspective



Charles A. Samuels
AHAM Counsel
March 26, 2002

Increases in Efficiency Standards

- Clothes Washers:
 - Will be about 55% more efficient in 2007 vs. 1990
- Refrigerator/Freezers:
 - Typical new unit uses about 60% less energy vs. 1980 unit

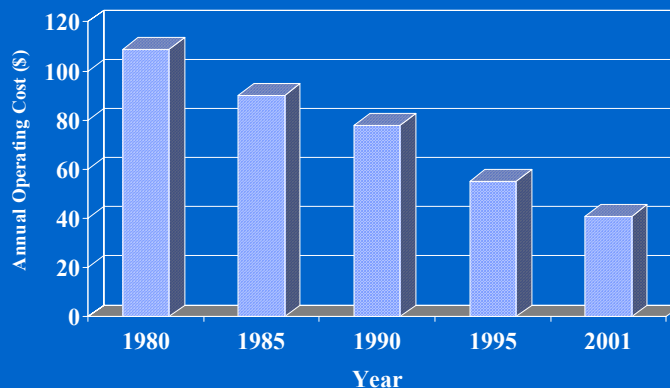
Clothes Washer Standards

- Standards effective 1-1-04 and 1-1-07
- Projected energy savings: 5.52 Quads
- Saving > 11 trillion gallons of water
- New Energy Star levels for CW & R/F
- Coalition effort for federal tax credits for high efficiency CWs and R/Fs

3

Refrigerator/Freezers - Annual Operating Cost

(For typical 20 cubic foot, auto-defrost, top-mount R/F)



4

Cumulative Savings of Appliance Standards

- In addition to 1.2 Quads saved by end of 2000:
- Cumulative energy savings from 6 new standards: **22.78 Quads**
- Emission reductions of **>1,500 MMt CO₂** equivalent over next 25 to 30 years

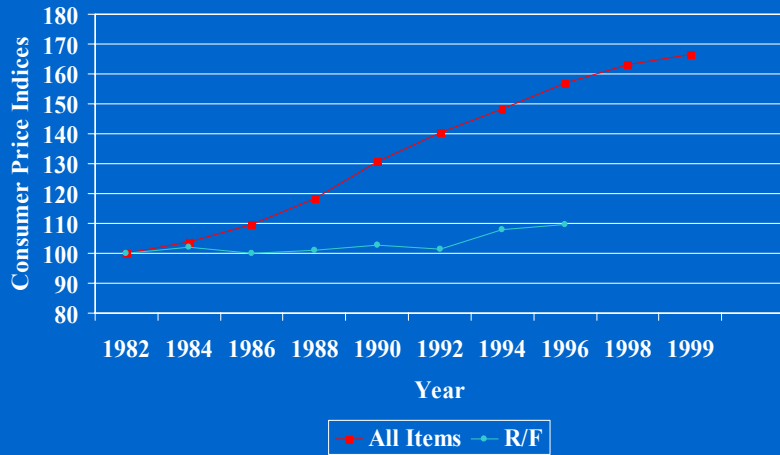
5

DOE AND RELATED EPA APPLIANCE REGULATIONS HAVE IMPOSED A SIGNIFICANT CUMULATIVE BURDEN ON THE U.S. APPLIANCE INDUSTRY (in Millions of Dollars)

	<u>1990</u>	<u>1993</u>	<u>1994</u>	<u>1995-1996</u>	<u>2000</u>	<u>2001</u>	<u>2003</u>	<u>2004/2007</u>
Refrigerator/ Freezer	\$243 DOE ENERGY STD.	\$450 DOE ENERGY STD.		EPA CFC PHASEOUT \$120		\$800 DOE ENERGY STDD	HCFC EPA Phaseout \$24-440	
Clothes Washers	DOE ENERGY STD.		\$103 DOE ENERGY STD.					DOE ENERGY STD \$421-528
Dryers	DOE ENERGY STD.		\$140 DOE ENERGY STD.					
Room Air Conditioners	DOE ENERGY STD.				\$33.5 DOE ENERG Y STD			
Dishwashers	DOE ENERGY STD.		\$155 DOE ENERGY STD.					
Gas Ranges	DOE ENERGY STD.							

6

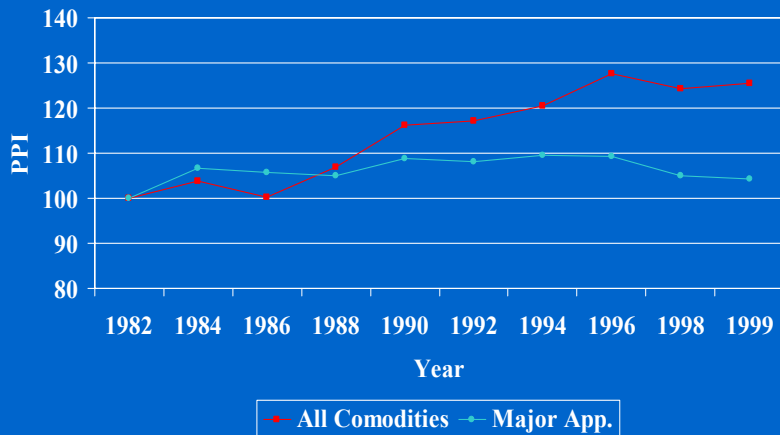
Consumer Price Index



Source: Dept. of Labor

7

Producer Price Index (change in prices at manufacturer Level)



Source: Dept. of Labor

8

Impacts on Manufacturers

- Large investments needed to meet new standards
 - less R & D money available for innovation
- Difficult for smaller mfrs to compete - consolidation
- Cumulative Regulatory burden
 - multiple regulated products by multi-line companies
 - Refrigerant phase-out

9

Where Do We Go From Here?

- Low hanging fruit has been picked
- Future gains on appliances much more difficult; not cost effective
- Incentives for higher efficiency products
 - tax credits
 - rebates
 - accelerated replacement

10

Accelerated Replacement

- Encourage Consumers to Replace Older, Less Efficient Appliances with Newer, More Efficient Models.
- Huge Potential Energy Savings & CO₂ emissions reductions.

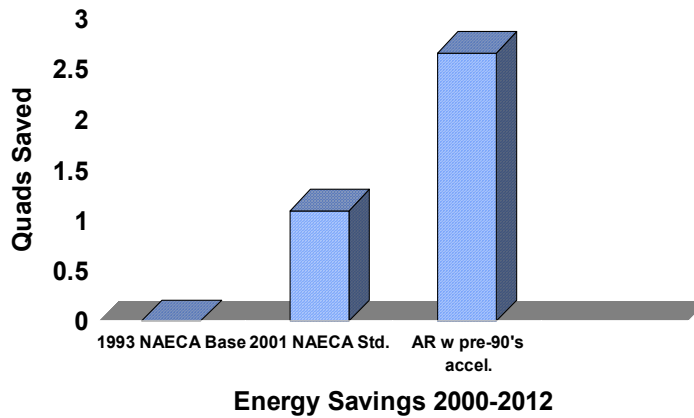
11

MESSAGE FOCUS

- Energy Savings
- Environmental Benefits
- Compatibility With Existing Programs
- New Technology
- Opportunity to Gain New Features, Benefits, Upgrades

12

Impact of Accelerated Replacement Refrigerator-Freezers



Change in Replacement Cycle from 19 to 14 years

13

EARLY RETIREMENT Message

- Do you need a second (inefficient) refrigerator?
- How much energy does this unit use?
- Could you purchase a larger primary refrigerator to take its place?
- One larger, new more efficient unit would use far less energy than two older units.

14

Tax Credit Incentives

- State of MD has eliminated sales tax on purchase of Energy Star Products
- Other states should follow
- Federal tax credits for sale of Energy Star Products

15

What's Next

- DOE Regulatory Agenda aptly recognizes most home appliances can be put on low priority
- Standby Energy - product-by-by basis
- Test Procedures - some revisions needed (e.g., dishwashers)
- Attention on Commercial Products

16

Conclusions

- Appliance efficiency standards will save tremendous amounts of energy over the next 25 to 30 years (>23 Quads!)
- Additional savings by further increasing standards will be much harder to justify
- Other sectors need to contribute their fair share of energy savings