

Funding Energy Efficiency Efforts in Delaware

Reducing Energy Use Workgroup

June 16, 2008

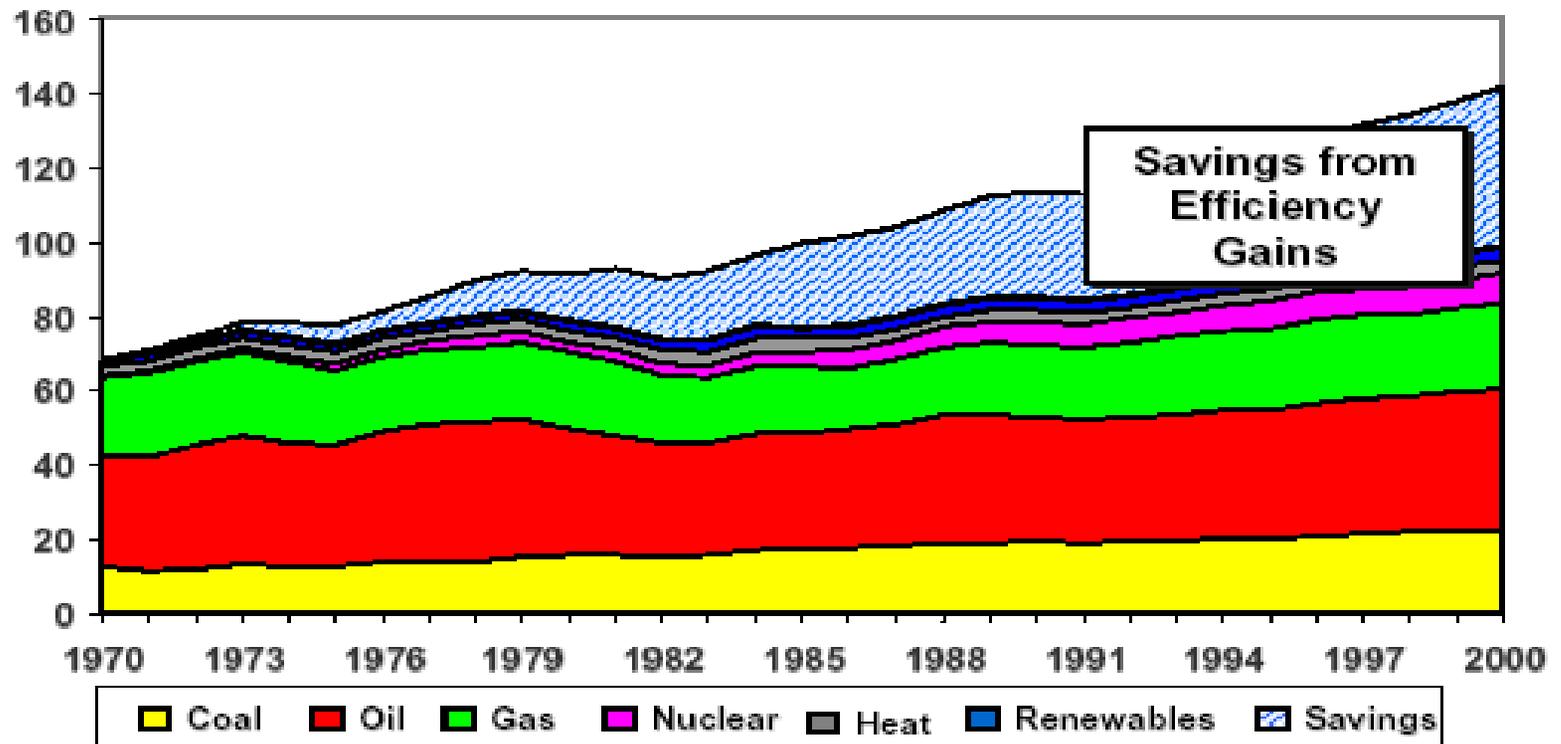
Phil Cherry, DNREC

Energy Efficiency

- Energy Efficiency is the cleanest, cheapest source of new power
- Energy Efficiency saves ratepayers money
- Energy Efficiency promotes energy security
- Energy Efficiency reduces the need for costly transmission
- Energy Efficiency reduces peak demands and reduces the overall cost of power to utilities
- Energy Efficiency can promote economic development, competitiveness, investment and job creation

Energy Efficiency

U.S. Energy Supply by Fuel (Quadrillion Btu) 1970-2000



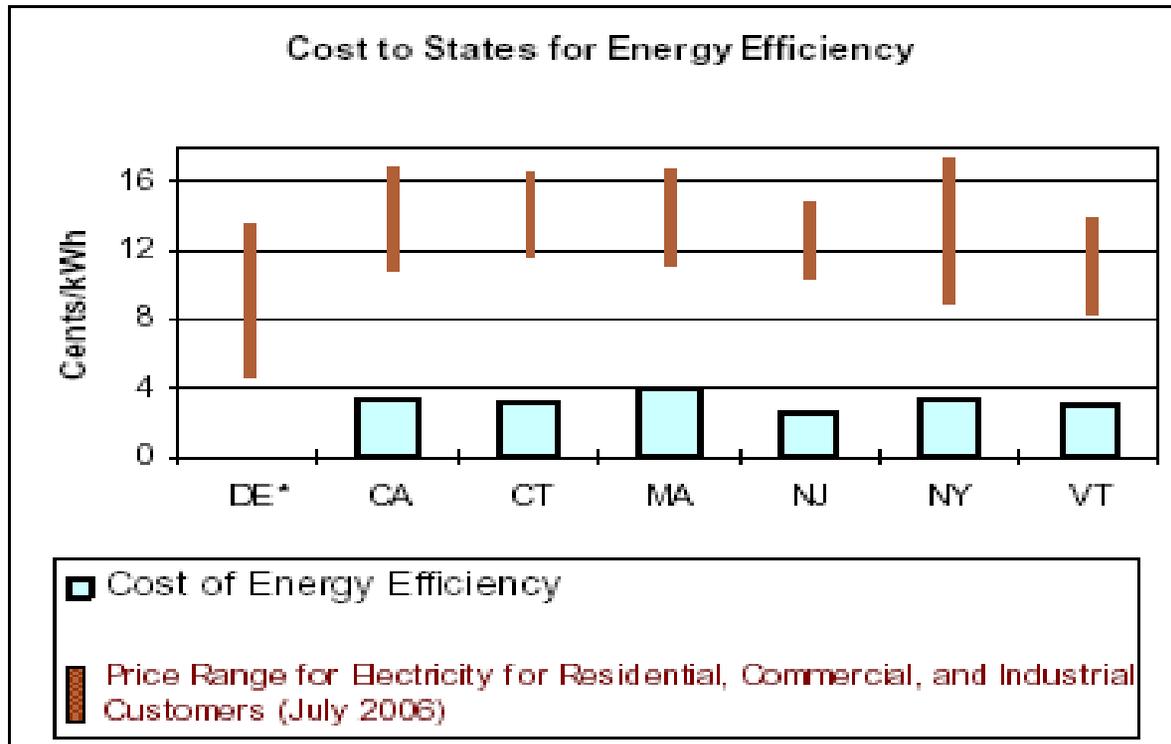
Note: Data from U.S. EIA, *Annual Energy Outlook* (2003)



Center for Energy and Environmental Policy

Energy Efficiency - Results

Cost of Energy Efficiency vs. Price of Electricity

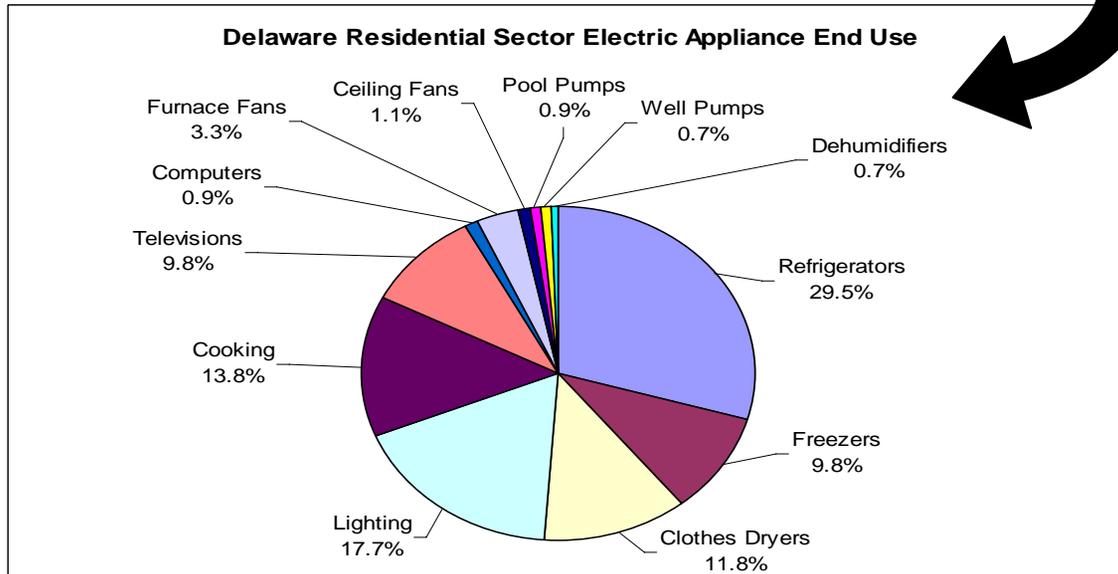
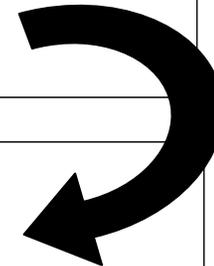
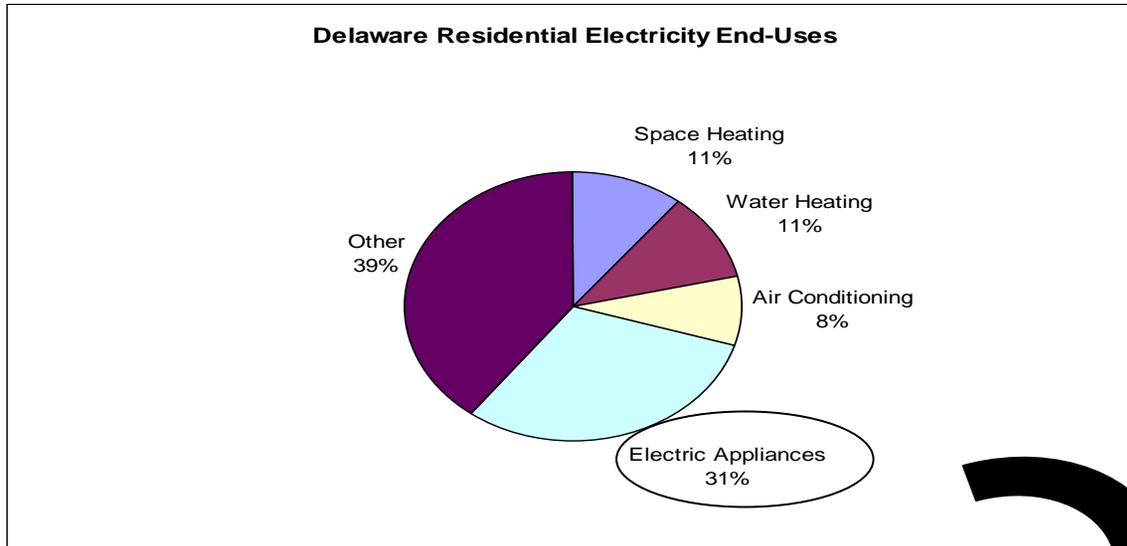


* No data available. Delaware did not fund energy efficiency until July 1, 2006.



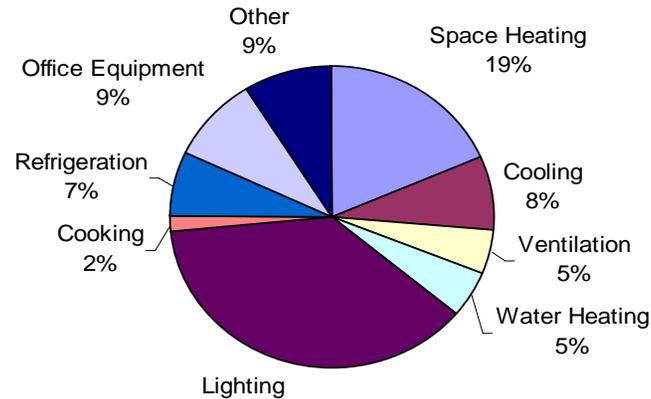
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Residential Appliance Profile

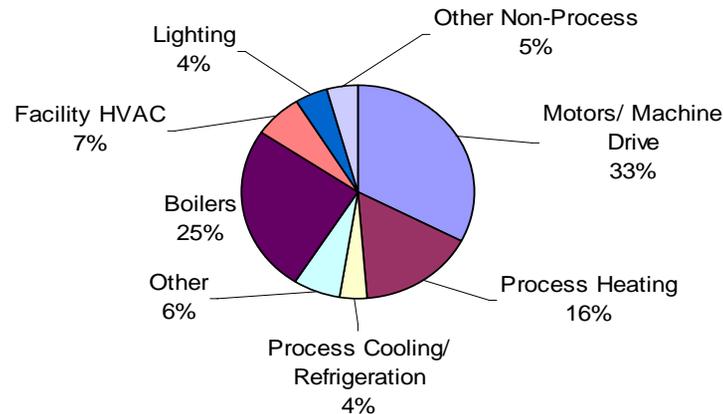


Commercial and Industrial Profiles

Delaware Commercial Sector Major Energy End Uses
(including electricity system losses)



Delaware Industrial Sector Major Energy End Uses
(Excluding Refinery and Chlor/Alkali End Users)
(including electricity system losses)



2003 Electric Energy Efficiency Spending per Capita

Rank	State	2003 Spending/Capita	2000 Rank
1	Vermont	\$28.26	5
2	Massachusetts	\$21.49	2
3	New Hampshire	\$16.41	16
4	Washington	\$15.21	11
5	Rhode Island	\$14.31	3
47	District of Columbia	-	28
48	Kansas	-	50
49	Delaware	-	20
50	Virginia	-	51
51	Wyoming	-	21
US Average		\$4.65	

Efficiency and the Green Energy Fund

- System Benefit Charge (SBC) created by HB 10
- Payable by Delmarva customers only (Muni's and Co-op have separate programs)
- Mil charge = \$0.000356/kwh
 - Generates ~\$3 million/year
 - 65% to the Green Energy Endowment Program
 - 25% to the Technology Demonstration Program
 - 10% to the Research and Development Program
- Existing Program focused on Renewables – by statute
- Efficiency Expenditures = \$0.00

Energy An\$wers Program

- Energy Efficiency Financial Incentives Act of 2006 - SB 281
- \$8 million one time appropriation
- Expenditure plan approved June, 2006
- Provide incentives to residential and non-residential ratepayers statewide
- \$100,000 set-aside for sustainable utility study

Energy An\$wers Program

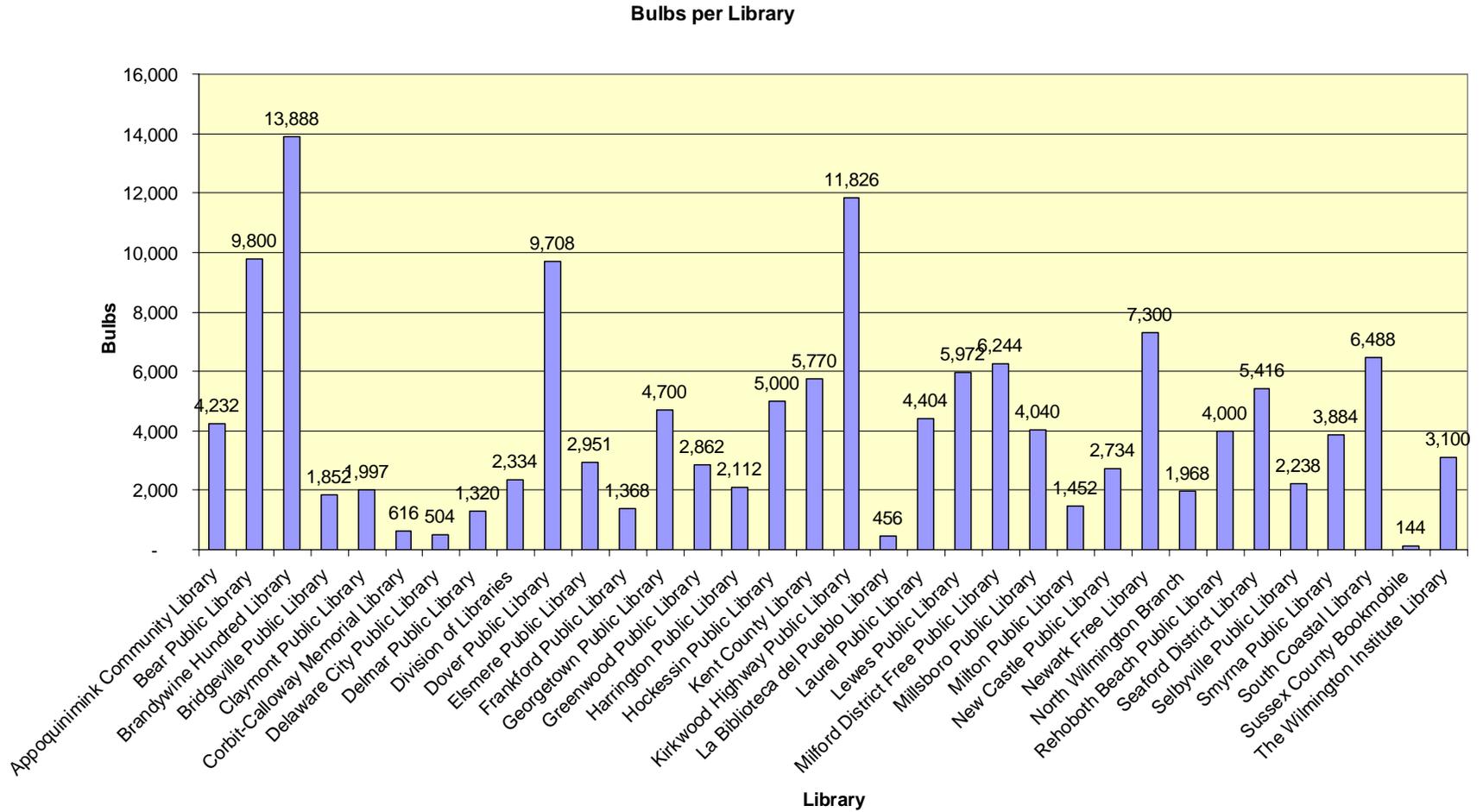
Four targeted segments tailored to different needs:

- Flip the Switch Delaware – CFL Campaign (Twisty Bulbs) – Program concluded
- Delaware Energy An\$wers for Home Appliances
- Delaware Energy An\$wers for Business
 - Just An\$wers – Grants for audits and feasibility studies
 - Prescribed An\$wers – Grants for lighting, refrigeration, motors, HVAC
 - Customized An\$wers – Grants for unique projects or comprehensive projects.
- Delaware Energy An\$wers for Home Performance

Energy An\$wers Program

- Flip the Switch Delaware!
 - 71,340 Delawareans participated
 - 142,680 light bulbs distributed
 - Potential energy savings 40,239,144 kWh of energy valued at \$4,023,914 in energy costs
 - Preventing 63,497,940 pounds of greenhouse gas emissions
 - Equal to removing 2258 cars from the road for 1 year.
 - Ranked #1 in the Nation for commitment to CFL's
 - 25-35% increase new patron library cards (unofficial)

Flip the Switch and Libraries



Energy An\$wers Program

- Energy An\$wers for Home Appliances (as of 1/31/08)

- 4,577 Participants (Kent – 643; Sussex – 1286; New Castle – 2648)

- \$735,289 total funds paid - \$260,400 reserved

- Average grant per applicant - \$160

- 8,333 Appliances

- Estimated savings = 28,413,290 kWh lifetime

- The Results:

- The cost of appliance efficiency

\$0.03/kwh

- The cost of delivered power

\$0.14/kwh

- CO2 not emitted

39,000,000 lbs

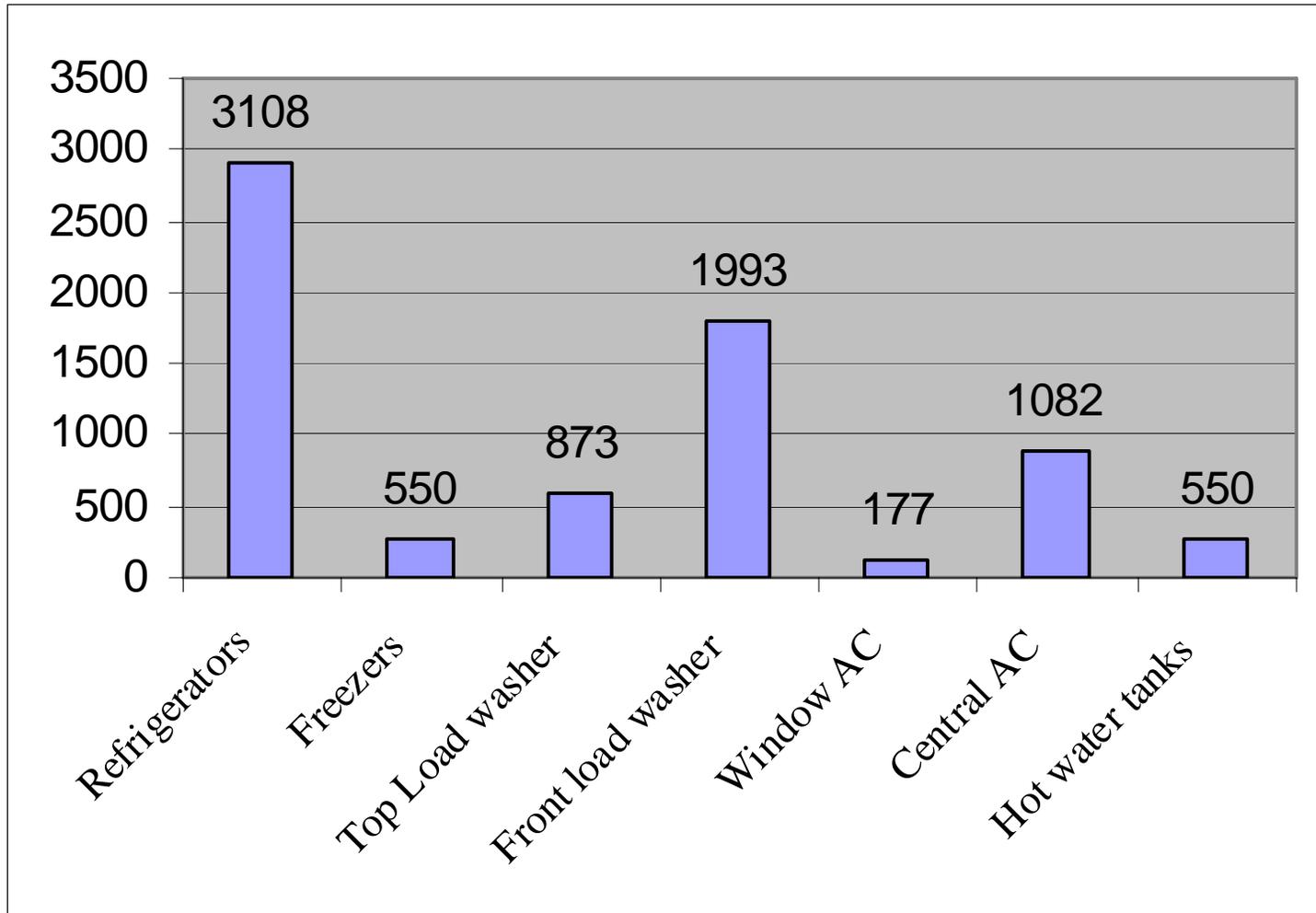
- NOx not emitted

100,000 lbs

- SO2 not emitted

320,000 lbs

Energy Answers Program Thru 1/31/08



Energy An\$wers Program

- Energy An\$wers for Business
 - up to \$100,000 per facility or \$200,000 per businesses
 - Must be engaged in business in Delaware and located in Delaware.
 - Grants will not buy down any project with an 18-month or less simple payback
- Results as of 1/31/08
 - 11 Completed Projects totaling \$365,000
 - 20 Pending projects potentially reserving an additional \$850,000 in grant funds
 - Total Application and Pending Projects \$1.215M

Sustainable Energy Utility (SEU)

- New program designed to promote efficiency and customer cited renewables (PV, geo, wind)
- Unique approach - all fuels; all sectors
- Private sector bonds used to capitalize initial program
- Shared savings model for long term
- Average Yearly_SEU Energy Efficiency Spending: 2008-2010 projected \$6.7 million for Residential Commercial/Industrial and Transportation (Source: UD CEEP, March 2007)

Regional Greenhouse Gas Initiative (RGGI) Background

- Designed to reduce CO₂ emissions from fossil fired energy generating facilities
- 10 state Governor's collaborative initiative
- Delaware an original signatory state
- "Cap and trade" program similar to NO_x and Acid rain programs already in place.
- Stabilization of CO₂ emissions thru 2015; 10% reduction from current levels by 2019
- Regulations being promulgated in 2008
- Statutory change required to handle sale of CO₂ allowances – SCR 28 Workgroup
- Bill required this session for DE to participate - SB 263

Cap and Trade Basics

- Successfully used previously for NO_x and SO_x
- Proven technique – reductions at lowest possible cost
- Ideal for use with “global” pollutant
- **How it works:**
 - Agree to a baseline (avg. annual emissions from 2000-2002)
 - Tally up all emissions (188 MMT in 10 states; 25+ MW power plants)
 - Agree on a cap (stabilization to 2015; 10% by 2019)
 - Create and allocate “allowances” (via regulations in each state)
 - Disburse allowances (allocate 40%, auction 60%??)
 - Regulation requires generators to have allowances to “cover” emissions
 - Reduce your emissions, trade or purchase allowances as needed
 - Periodically surrender those allowances to stay in compliance

RGGI Specifics

- Auctioning of allowances - beginning at 60% in 2009 ramping up to 100% in 2013 – requires legislative approval
- Auction proceeds to:
 - Energy efficiency and renewables through the Sustainable Energy Utility
 - Low income programs
 - Carbon abatement fund
 - Administrative expenses
- 1-2% increase in avg. energy price possible by 2015
- Rate payer impacts mitigated by efficiency investments and low income programs
- Costs dependent on markets and allowance prices
- Jump start on federal program (likely not until 2015)
- Comprehensive Review of Program in 2012
- Delaware enabling legislation required this year

RGGI Revenues for Efficiency?

- Using a base of 6.4 million allowances
 - At 60% auction level and \$2 allowance price = \$7.7 million
 - With 65% to the SEU = \$5 million/yr
 - At 100% auction level and \$2 allowance price = \$12.8 million
 - With 65% to the SEU = \$8.32 million/yr
 - Other allowance prices yield other results

2004 Energy Efficiency Spending By State With and Without RGGI Revenue

Source: ACEEE 2007

