



GENERAL MANAGER REGULAR ITEM #090454

Results and Recommendations for Energy Efficiency Programs

October 1st, 2009





Preview

- Results through Aug '09
- Program Changes
- Measurement & Verification
- FY '10 Targets





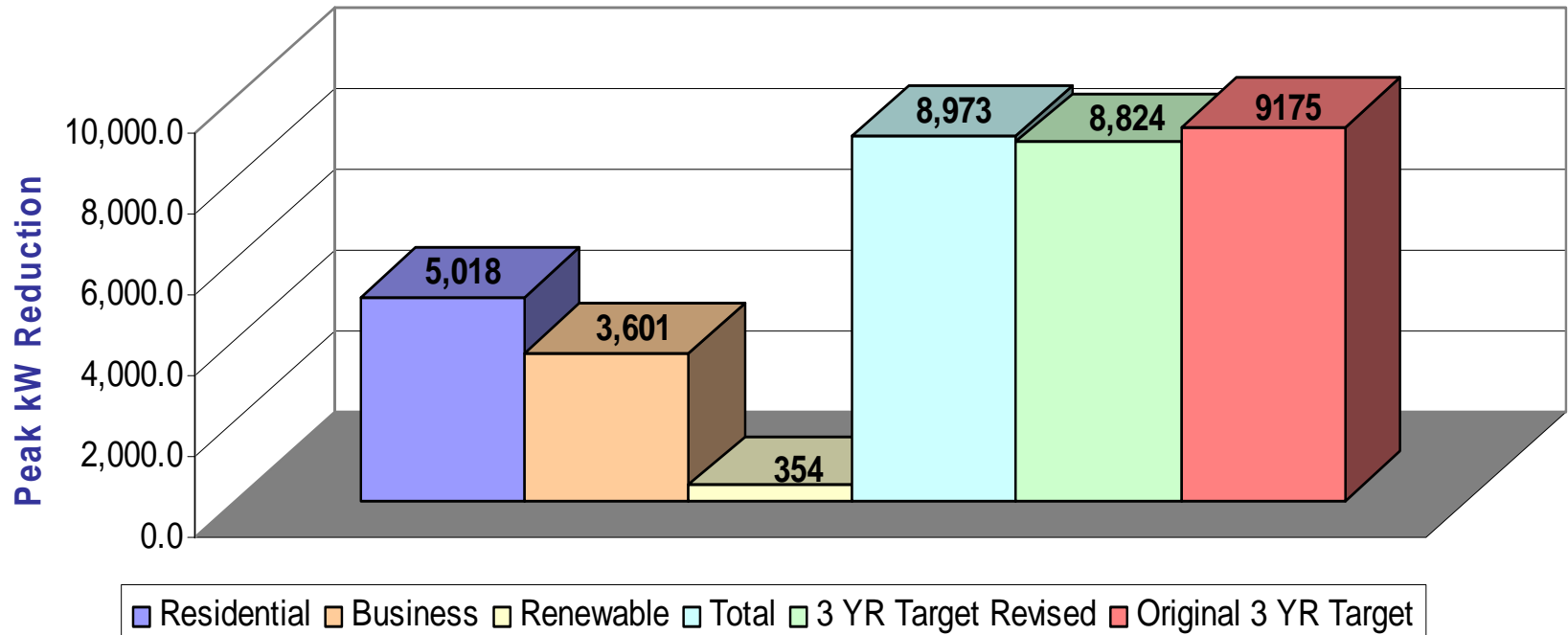
Continue to surpass goals

- Cumulative FY07 - FY09
 - Revised Goals
 - 47,286 MWh
 - 8,824 kW
 - Actual Achieved as of Aug 31, 2009
 - 49,343.3 MWh
 - 8,972.5 kW
 - Equates to annual customer savings of \$6.6 million
 - 4902 homes
 - 43,816.6 Tonnes of CO₂



Demand Reductions

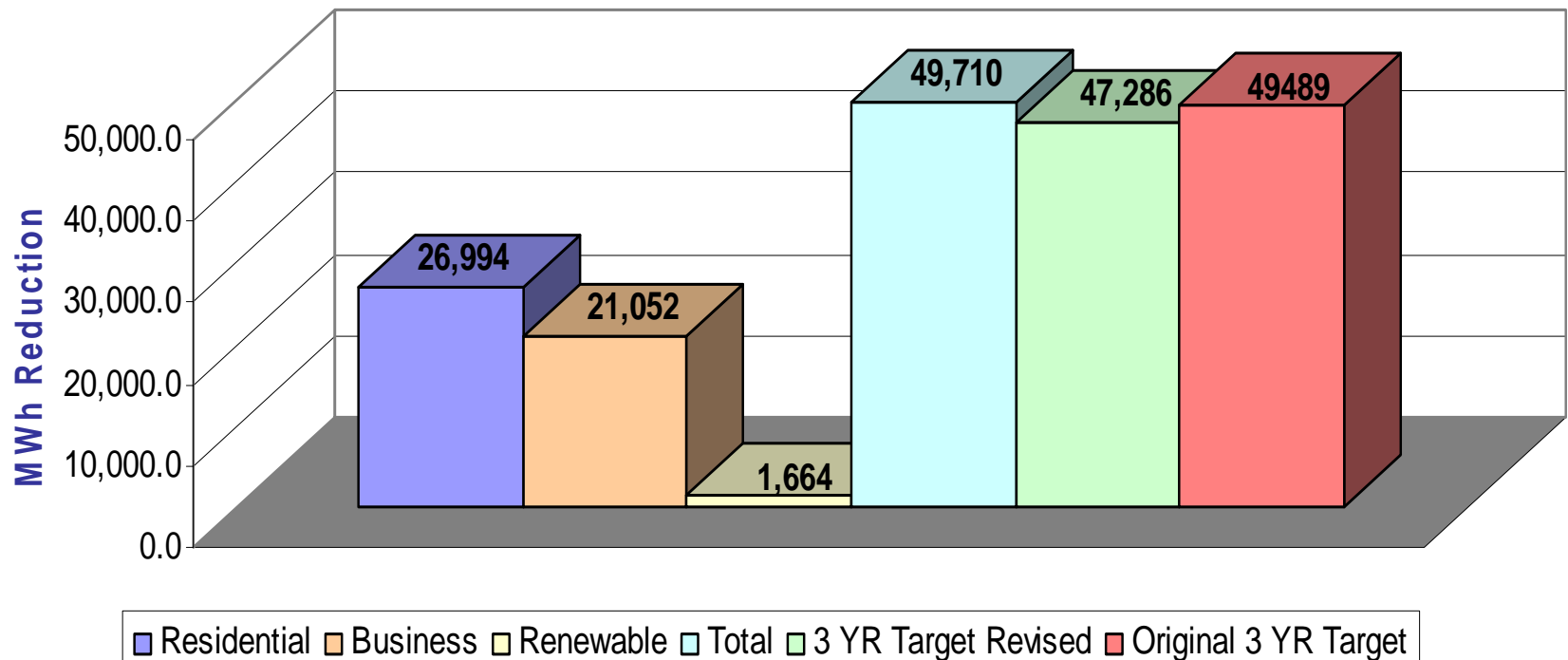
Total Demand Reduction Through August '09





Energy Reductions

Total Energy Reduction Through August '09





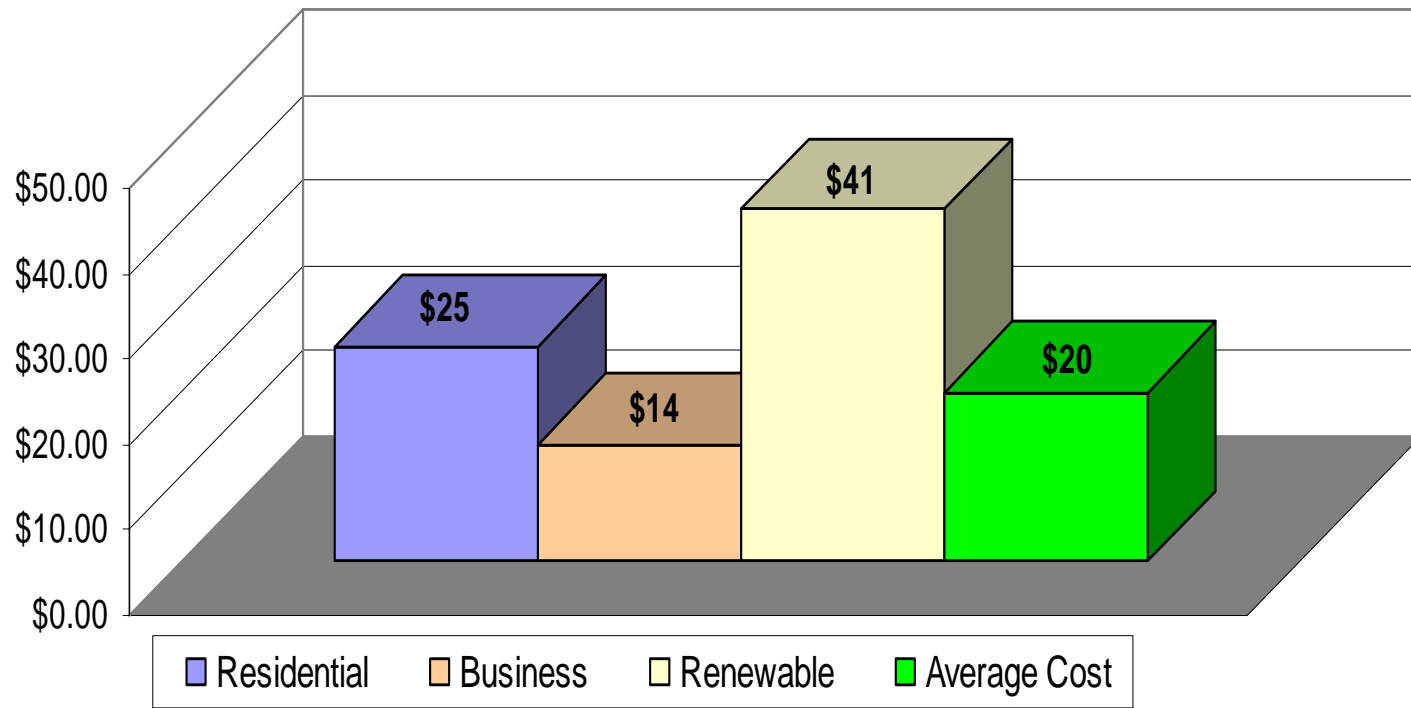
Still very cost effective

- Program Cost
 - \$19.62 / MWh
- Average cost of GRU generation mix
 - \$61.00 / MWh



Cost of energy

Levelized Cost per MWh Energy Reduction Through June '09





FY '09 Highlights

- Stimulus award
 - Additional LEEP homes
 - Positive Energy Behavior Project
 - Building integrated solar at Administration
 - GG projects
- Implemented the Solar FIT
 - ½ MW installed since April
 - 31,927 kW in queue
 - National recognition
 - Numerous speaking requests



Criteria for Program Changes

- Desire to get substantial savings even with reduced budgets
 - Using what we've learned to capitalize on the market transformation we're seeing
 - Determining which programs are maturing and/ or reaching saturation and can be reduced or eliminated
 - Reducing number of free riders



Residential Programs

- Central A/C Maintenance
 - OLD
 - Rebate \$55
 - A la carte offered
 - NEW
 - Rebate \$40
 - Drop a la carte
 - Combine w/ duct repair or added insulation



Residential

- High Efficiency Room A/C
 - OLD
 - Offered as a la carte
 - 2 events per year
 - NEW
 - Drop a la carte
 - 1 event during the year



Residential

- Central A/C (Ductless Mini Split Systems)
 - **OLD**
 - All high efficiency ductless systems rebated \$550
 - **NEW**
 - < 18,000 BTU rebated \$300
 - > 18,000 BTU rebated \$550
- Duct Leak Repair
 - **OLD**
 - Rebate cost of repair up to \$375
 - **NEW**
 - Rebate 50% up to \$375
- Reflective roof coating
 - Discontinue due to lack of interest



Residential cont'd

- Home Performance w/ E-Star
 - **OLD**
 - Max rebate \$1560
 - 5 different packages available
 - 10 CFLs mailed to customers
 - Pre & Post test all duct repairs
 - Weatherstripping not required
 - **NEW**
 - Max rebate \$1435
 - Reduce to 4 packages
 - Discontinue CFLs
 - Post test only
 - Evaluating requiring weatherization (caulking and weatherstripping)



Low Income Programs

- **Low Income Energy Efficiency Program**
 - **OLD**
 - 10 CFLs left with every customer
 - 114 homes targeted for FY '10
 - **NEW**
 - CFLs only offered as direct install
 - Pilot with St. Johns River Water Management District to provide Low Flow Toilets to participants
 - Additional 162 homes targeted from Stimulus dollars



Residential / Business

- High Efficiency Pool Pump Program
 - OLD
 - 4 tiers \$100 - \$500
 - Contractor rebate of \$100 for programming
 - New
 - 3 tiers \$100 - \$350
 - Contractor rebate of \$50 for programming
 - Reduce amount of free riders
 - Great investment by itself



Renewable

- Solar Water Heater Program
 - **OLD**
 - Installation guidelines only based on orientation and tilt
 - **NEW**
 - Adding requirement of a solar pathfinder report to maximize the solar window available for the units



Business Programs

- **Custom Business**

- **OLD**

- Formula based amount up to 50% or \$40,000
 - Rebates given for any energy/demand reduction projects

- **NEW**

- \$400/kW or \$0.08/kWh whichever is greater up to 50% or \$40,000
 - Projects with simple paybacks of <1.5 years will get 50% of calculated rebate
 - Will reach twice as many customers with same amount of money
 - Reduced free riders
 - Encourage broader projects



Business

- **LED Exit Signs**
 - Dropped due to high saturation
 - Very quick payback w/o rebate
 - Still can be used in Custom Business projects



Measurement & Verification of Energy Efficiency Programs



Selection of Programs

- Which Programs to Evaluate?
 - Number of Participants, Budget for M&V, Expectations of Energy Savings
- Programs Evaluated:
 - Refrigerator Buyback & Recycling
 - Attic Insulation
 - Duct Leak Repair
 - Super SEER AC



Evaluation Process

- Develop Participant Analysis Group
- Establish Representative Control Group
- Develop a Model of Temperature-Normalized Annual Consumption
- Estimate Energy Impacts with a Statistically Adjusted Engineering Model
- Refine the Model



Energy Savings Results

ENERGY SAVINGS

Program	Participants	Previous Estimate (kWh per participant)	M&V Result (kWh per participant)
Refrigerator Buyback and Recycling	637	1,946	1,159
Super SEER AC	265	1,398	2,394
Attic Insulation	201	1,502	1,592
Duct Leakage Repair	350	1,263	1,349

- Super SEER Energy Savings Higher than Estimated
- Attic Insulation and Duct Leakage Energy Savings as Estimated
- Refrigerator Energy Savings Lower than Estimated



Demand Savings Results

DEMAND SAVINGS

Program	Participants	Previous Estimate (kW per participant)	M&V Result (kW per participant)
Refrigerator Buyback and Recycling	637	0.310	0.140
Super SEER AC	265	1.083	0.922
Attic Insulation	201	0.486	0.613
Duct Leakage Repair	350	0.516	0.519

- Refrigerator and Super SEER Demand Savings Lower than Estimated
- Attic Insulation Demand Savings Higher than Estimated
- Duct Leakage Repair Demand Savings as Estimated



Conclusions of M&V

- Our estimated savings for programs are pretty accurate overall
- Refrigerator Buyback & Recycling program is a good value for energy savings
 - Need to reduce estimated savings
 - Begin tracking replacement vs. removal
- Track EER instead of SEER to determine demand savings for Super SEER AC
- Track existing R-value in Attic Insulation program



2010 Goals

- 22,839 MWh
- 3,747 kW
- Continue with M&V
 - Home Performance w/ Energy Star
 - Natural Gas Appliances
 - Custom Business Program



Questions?

