Stakeholder Meeting
Act 129 Phase Two

PPL Electric Utilities
May 1, 2013
Harrisburg, PA
• Welcome

• Safety First

• Meeting overview
  • Outcome, comments and follow up from March 14th Opinion and Order
  • Overview of Phase II programs being offered
  • Review of Low-income Energy-efficiency Behavior and Education Program
  • Presentation of the energy education for residents of Multifamily Master Metered Low-Income Housing CSP contract status updates
  • Questions
Outcome, comments and follow up:

- PPL Electric Utilities Plan was approved with minor changes in large part thanks to stakeholder input.

- Specific requests from PUC are as follows:
  - Continue the practice of referring all customers who self-verify as low-income to all of PPL EU’s low income programs.
  - Coordinate Act 129 WRAP with Low-Income Usage Reduction Program (LIURP) WRAP to ensure that all eligible customers receive all available and appropriate services.
Outcome, comments and follow up:

- Share the education plan for the Master Metered Low-Income Multifamily Program with stakeholders
- Include LEDs in the Master Metered Low-Income Multifamily Program
- Track and report fuel switching from electric to gas and gas to electric
- Either reallocate funds from the Low-Income Behavior and Education program (approximately $1.18 million) to Act 129 WRAP \textbf{or} provide additional details about this program
Outcome, comments and follow up:

- Revise tariff to comply with PUC’s directive of Phase I and Phase II cost recovery requirements

- Set deadlines for the submission of all incentive applications following the in-service date of a measure during Phase II
Appliance Recycling Program

- Up to two refrigerators or freezers or one refrigerator and one freezer during each calendar year per customer
  - $35 rebate per unit

- Up to four air conditioners per calendar year. Must be recycled in conjunction with a refrigerator or freezer per customer
  - $25 per unit

<table>
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<tr>
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Phase I programs continued to Phase II

Residential Retail Program

- Combines Phase I Lighting Program with Residential Efficient Equipment Program
- Includes a mid-stream discount on consumer electronics
- Smart Strip program

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Residential Energy-Efficiency Behavior & Education Program

- Starting PY6, approximately 110,000 customers will receive energy report cards
- Include energy saving tips and behavior changes that help customers reduce energy usage

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Phase I programs continued to Phase II

Low-Income WRAP (with changes)

- Baseload WRAP
- Heat Pump Water Heater
- Target: Residential customers at or below 150% of FPIG *

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* Federal Poverty Income Guideline
Phase I programs continued to Phase II

E-Power Wise Program

- Energy-efficiency kits for customers at or below 150% of FPIG *

- Distribute kits through Community Based Organizations (CBOs)

- Direct mail component

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* Federal Poverty Income Guideline
Phase I programs continued to Phase II

Prescriptive Equipment Program

• Rebates and incentives from a list of specific energy-efficient measures and services

• Direct Discount for energy-efficient lighting and commercial refrigeration

• Farm component

• Pilot program for conversion from electric heat to ENERGY STAR® rated fossil fuel space heating or water heating
### Prescriptive Efficient Equipment

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Custom Incentive Programs

- Encourage customers to install high-efficiency equipment
  - Must have a TRC of 1 or greater
  - $0.08/kWh saved based on verified savings

- Encourages “whole facility” approach

- CHP projects
  - Must have a TRC of 1.25 or greater
  - $0.05/kWh saved based on verified savings

- Up to $250,000 per customer site per year or $1 million per parent company per year for customers with multiple sites

- Incentives may not exceed 50% of incremental cost
Phase I programs continued to Phase II

Custom Incentive Program

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What’s new….

Residential Home Comfort

- New homes component
  - Focus on new home builders
  - Rebate for installing required program measures

- Audit and weatherization component
  - Walk through audit and comprehensive audits with rebates

- Energy-efficient equipment component
  - Rebates for HVAC and pool pumps

- Pilot program for conversion from electric heat to ENERGY STAR® rated fossil fuel space heating or water heating

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What’s new….

Student and Parent Energy-Efficiency Education Program

- Five components
  - Bright Kids (grades 2-3)
  - Take Action! (grades 5-7)
  - Innovations (grades 9-12)
  - Workshops for parents targeted at low-income communities
  - Teacher workshops

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What’s new

Low-Income Energy-Efficiency Behavior & Education Program

• Starting PY6, up to 50,000 low income customers at or below 150% of FPIG* customers will receive energy report cards

• Includes no cost or low cost tips that may help low-income customers reduce energy usage, promotes safety, informs customers about other assistance programs for which they may qualify

• Reaches underserved segment of customers

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* Federal Poverty Income Guideline
What’s new....

School Benchmarking Program

• Benchmarking up to 25 schools per plan year

• Train and provide support schools on the use EPA Portfolio Manager and how to update their data

• Provide schools with recommendations on ways to use energy wisely

* savings for measures implements are captured in other programs.

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Continuous Energy Improvement Program

- In PY6, 10 school districts will be identified to participate
- Energy savings goal set for each participating school district
- Instills an energy efficiency ethic in operation and maintenance of schools and engages administrators, teachers and students in more energy efficiency behavior

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What’s new....

Master Metered Low-Income Multifamily Housing Program

- Walk through audits
- Direct install measures in apartments
- Prescriptive measures in common areas
- Tenant and building manager education
- Zero percent financing

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Break
Energy Efficiency Sessions

Name of Building
Date and Time of Session

Draft for Stakeholder Input on May 1, 2013
Welcome

• Thank you for attending this energy efficiency session!

• Safety first-emergency evacuation route
Pennsylvania’s Act 129

• Act 129 requires electricity companies to help customers reduce energy use and reduce costs

• This building is participating in PPL Electric Utilities E-Power program for multifamily buildings that are master metered
  – This building has one electric meter
  – Cost for the electricity you use is part of the rent for your unit
  – Using electricity more efficiently may help to keep rents more stable, longer

• Since the rent you pay includes the cost of electricity, you are in part funding this program
Session Objectives

- Discuss why energy efficiency makes sense
- Review the energy efficiency measures that will be installed in
  - Individual units
  - Common areas
- Identify the behaviors that can reduce energy consumption
- Review the process for installing energy efficiency measures in your apartment
Fuels Used to Generate Electricity in Pennsylvania

- Natural Gas: 24%
- Nuclear: 34%
- Coal: 38%
- Wind, Solar, Others: 2%
- Hydro: 1%
- Oil: 1%

Draft for Stakeholder Input on May 1, 2013
Benefits of Energy Efficiency

• Reduces customer costs

• Makes better use of non-renewable fuels

• Helps keep the cost of electricity lower over time

• Reduces greenhouse gases

• Helps with energy independence

Draft for Stakeholder Input on May 1, 2013
Unit of Electricity is Kilowatt Hours

- One kilowatt used for one hour
- One kilowatt hour is equal to ten 100 watt light bulbs turned on for one hour
- Charges for electricity is based on the number of kilowatt hours used
- Energy efficiency is gaining more work or use from a light or appliance while using less electricity to power it
Measures Installed In Apartments

- Compact Fluorescent Lights (CFL)
- Low-flow shower head
- Low-flow sink aerator
- Smart strips
- ENERGY STAR Refrigerators
CFL

- Incandescent bulbs will be required to meet new Federal efficiency requirements
- CFL uses 75% less energy and lasts 10 times longer than incandescent bulbs
- Various color renditions (soft, bright, day light)
- Almost 8 million CFL’s provided by E Power Programs to date
- Proven way to reduce electricity consumption through more efficient lighting in homes
Smart Strip

- Most electronics use energy even when they are turned off (Phantom Load or Vampire Load)
- Flat screen TVs are an example of a large energy user even when they are turned off
- Smart strips automatically shut off selected equipment that is in idle mode (turned off, but still using energy)
- Smart strips can reduce the electricity used by electronics or appliances by 5% to 10% per year
- More convenient than always unplugging individual devices
- Separate plug allow cable boxes to remain active
Low Flow Showerhead

- Showers are 30% of the water used in a home
  - Costly to heat water
  - Costly to pump water and process waste water
- Old showerheads can have flow rates of 5.5 gallons per minute
- Today’s regulations require showerheads to be less than 2.5 gallons per minute
- Low flow shower heads achieve water savings of 25% to 60%
  - Need to heat less water
Low Flow Faucet Aerators

- As with shower heads, low flow kitchen and bathroom sink aerators save water and energy
- Typical aerators allow the flow of about 2 gallons per minute
- Low flow aerators reduce the flow to about 1 gallon per minute
Refrigerator Replacement

- New refrigerators are much more energy efficient
  - Better insulation
  - Improved refrigerants
  - More efficient motors
  - Better door seals
- ENERGY STAR labeled refrigerators use 15% less electricity than required by the Federal Government
  - Difference in electricity consumption could be more than 1,000 kilowatt hours in a year
- Old refrigerators will be completely recycled
Easy Behaviors That Help Make the Best use of Electricity

• Turn off lights when not needed
• Adjust thermostats, particularly if no one is home
  – Higher in the summer
  – Lower in the winter
• Close curtains or blinds to keep sunlight out in the summer
• Use a microwave or toaster oven rather than heating the entire oven, when possible
• Make decisions in favor of energy efficiency
Installation in your Apartment

- Our installers will be on site the week of September X
  - All installers will have identification and name badges
- On average, it takes about 30 minutes to install measures in your apartment
- We will leave a door hanger on your door knob 48 hours before we plan to be at your apartment
  - It will identify a two hour window of time during which we will arrive
  - If the time on the card is inconvenient, please contact the building managers to arrange a better time
Common Area Improvements

• Hall lighting
  – More efficient fluorescent tubes—these lights are on all the time so using more efficient tubes will save a lot of electricity
  – Occupancy sensors—Improves efficiency by only turning on lights when needed

• LED Exit signs

• Efficient exterior lighting
Other Programs Available to Improve Energy Efficiency and Control Costs

- The following programs available for income qualified customers in single family homes or apartments with individual electric meters
  - Winter Relief Assistance Program: Provides energy efficiency measures and weatherization at no cost
  - E-Power Wise: Offered through community based organizations and provides energy efficiency education and kits that include many of the measure your will be receiving
  - Brochures describing both programs are being distributed
Conservation Service Providers

- Contracts completed and filed with the Pa PUC.
  - Prescriptive Equipment and Custom Incentive Programs (Small C&I, Large C&I and GNI)
    - KEMA Services, Inc.
  - Energy-Efficiency Behavior & Education Programs
    - Opower, Inc.
  - E-Power Wise Program
    - Resource Action Program, Inc.
  - Residential Retail Program
    - ECOVA, Inc.
Contracts completed and filed with the Pa PUC.

- Student and Parent Energy-Efficiency Education Program
  - National Energy Foundation

- EM&V
  - Cadmus

- Advertising, Marketing and PR
  - UMarketing

- Master Metered Low-Income Multifamily Housing Program
  - SmartWatt
Conservation Service Providers

- Contract negotiations underway:
  - Home Comfort Program
  - School Benchmarking Program
  - Continuous Energy Improvement Program
Discussion and Questions
PPL Electric Utilities Contact Information

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- Mary Thompson Grassi
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