



PPL Electric Utilities

PPL Electric Utilities Act 129 EE&C Programs Stakeholder Meeting 10/16/13



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PPL Electric Utilities Act 129 Phase II

- Welcome – Tom Stathos
- Safety first
- Presentation overview
 - Pete Cleff Phase I Results
 - Joe Mezlo Phase I Lessons Learned
 - Mary Thompson Grassi Overview of Phase II Programs
 - Joe Mezlo Increasing Value: Phase II Proposed Plan Revision Overview
 - Maureen Fenerty Proposed Residential enhancements
 - Dirk Chiles Proposed Small Commercial & Industrial, Large Commercial & Industrial and Government, Non-profit and Institution enhancements

Phase I Summary of Results

	Compliance Requirement (MWh/yr.)	Projected (Final results will be in the 11/15/13 Final PY4 Annual Report) (MWh/yr.)	Projected Difference (MWh/yr.)
Total Verified Energy Savings (MWh/yr.)	1,146,431	1,684,000*	538,000*
Total GNI Verified Energy Savings (MWh/yr.)	114,643	203,000	88,000

* Includes CFL cross-sector sales adjustment.

Phase I Summary of Results

	Compliance Requirement	Projected (Final results will be in the 11/15/13 Final PY4 Annual Report)
Total Peak Demand Savings during top 100 hrs. 6/1 – 9/30/12	297 MW	350 MW*
Total Cost of Programs	\$249 MM (\$246 cap + SWE)	\$244 MM
Benefit-Cost Ratio	≥ 1.0	1.7 to 2.0

*Includes CFL cross-sector sales adjustment (46MW)

Phase 1 Savings & Costs by Program

Program	Direct Program Costs (\$MM)	Reported Savings (MWh/yr.)
Efficient Equipment	\$99.7	784,841
Residential Lighting	\$17.3	609,708*
Custom	\$17.2	186,227
Appliance Recycling	\$7.6	81,525
Behavior & Education	\$2.5	37,831
Low-income WRAP	\$29.2	20,643
Renewables	\$5.6	14,705
Audit & Weatherization	\$1.8	7,234
E-Power Wise	\$0.8	3,630
HVAC Tune-up	\$0.8	1,649
Direct Load Control	\$8.8	-
Load Curtailment	\$10.0	-
TOTAL	\$201.4	1,747,994*

* Includes 157,367 cross-sector sales adjustment. +213,184 Small C&I; -55,817 residential

Phase I – Costs by Sector

(as of 8/31/13)

Sector	Direct Cost including incentives (\$MM)	Incentives (\$MM)	Common Cost ² (\$MM)
Residential	\$52.9 ¹	\$50.0	\$10.7
Low-Income	\$29.9	\$19.0 ³	\$6.0
Small C&I	\$67.4 ¹	\$51.2	\$13.6
Large C&I	\$28.7	\$17.5	\$5.8
GNI	\$22.5	\$18.6	\$4.5
Total	\$201.4	\$137.3	\$40.6

1. Includes \$2.149 cost reallocation (from residential to small C&I) for cross-sector sales

2. Portfolio-level costs not directly charged to specific programs. Includes evaluation, marketing, tracking system, plan development, plan management, general administration.

3. Starting PY3 Q4, no costs were classified as incentives. Historical values were not changed.

Phase I – Costs & Savings by Sector

Sector	Total Cost (direct + common) (\$MM)	% of Total Cost	Reported Savings (MWh/yr.)	% of Total Reported Savings
Residential	\$63.6 ¹	26.3%	593,563 ²	33.9%
Low-Income	\$35.9	14.8%	24,276 ⁴	1.4%
Small C&I	\$81.0 ¹	33.5%	643,018 ³	36.8%
Large C&I	\$34.5	14.2%	269,204	15.4%
GNI	\$27.0	11.2%	217,933	12.5%
Total	\$242.0	100%	1,747,994	100%

1. Includes \$2.149 cost reallocation (from residential to small C&I) for cross-sector sales
2. Includes -55,817 adjustment for cross-sector sales (these are on a verified basis)
3. Includes +213,184 adjustment for cross-sector sales (these are on a verified basis)
4. Excludes low-income participation in general residential programs

Act 129 Phase I – “Fast Facts”

- 679,000 total participants (some participated multiple times; excludes participation in CFL Program)
- Over 300,000 unique participants (excluding CFL program). ~ 25% of total customers

Sector	Participants
Residential	272,433
Small C&I	10,450
Low Income	21,409
Large C&I	434
GNI	2,748

Act 129 Phase I – “Fast Facts”

- 4,000 small businesses participated in the direct discount program (mostly lighting retrofits)
- More than 9.7 million CFLs distributed through approximately 400 stores and community events
- Over 55,500 appliances recycled
- 250 stores promoted energy-efficient appliance rebates
- Provided WRAP services to over 13,200 low-income households

Phase I – Lessons Learned

- Frequency, complexity, and impact of the Technical Reference Manual revisions were greater than expected
- Difficult to accelerate, decelerate, and change programs quickly
- Small C&I customers were initially much more difficult to reach than expected.
- The key role played by trade allies, energy managers, and facility managers in implementation of energy-efficiency measures and projects is very important

Phase I – Lessons Learned

- Challenge of managing wait lists and the impact on customers
- Challenge of managing and tracking applications, savings, costs, and reconciliation for GNI customer sector
- Top 100-hour concept for peak reductions is:
 - difficult to manage
 - encourages significant over-compliance
 - costly to minimize risk

Phase I – Lessons Learned

Higher than expected Phase I carryover savings of 538,000 MWh/yr.

- 110,000 MWh/yr. of Phase 1 carryover savings estimated in the Phase 2 Plan.
- 157,000 MWh/yr. due to cross-sector CFL sales
- 135,000 MWh/yr. due to late surge from prescriptive rebate applications received after May 31, 2013

Act 129 Phase II - Requirements

- Three years - started on June 1, 2013 and ending on May 31, 2016
- Offer at least one energy-efficiency program for each customer sector and offer a reasonable mix of energy-efficiency programs for all customer sectors
- Offer at least one comprehensive measure for residential and for commercial customer sectors

Phase II – Requirements



PUC Requirements	PPL Electric Utilities Phase II Plan
\$184.5 million (plus \$3 MM for SWE)	\$186.7 million (includes \$3 MM for SWE)
821,072 MWh/yr.	841,957 MWh/yr. + 110,000 Phase I carryover = 951,957 MWh/yr.

Act 129 Phase II Requirements -- continued

- Achieve a minimum of 4.5% (36,948 MWh/yr.) of the total required energy reductions from the low-income customer sector
- Achieve a minimum of 10% (82,107 MWh/yr.) of the total required energy reductions from GNI customers
- Meet the Total Resource Cost Test (TRC) of ≥ 1 with the portfolio of programs
- Allocate the cost of measures to the customer class(es) that receive(s) the benefit of those measures

Phase II -- Residential Programs

MWh/yr. Savings	% of Total Savings	Cost (000)	% of Total Costs
378,000	45%	\$58,000	31%

- Appliance Recycling
- Lighting
- Rebates for efficient equipment
- Home Energy Report cards
- New home construction incentive 
- Home energy audits and weatherization
- Student and Parent Energy-Efficiency Education 



Low-Income Programs

MWh/yr. Savings *	% of Total Savings	Cost (000)	% of Total Costs
22,000	3%	\$18,000	10%

- Low-Income WRAP
- Home Energy Report cards for low-income customers
- E-Power Wise Program



- Does not include low-income participation in non low-income programs (estimate = 71,000 MWh/yr.)

Phase II - Small and Large C&I Programs

Sector	MWh/yr. Savings	% of Total Savings	Cost (000)	% of Total Costs
Small C&I	158,000	19%	\$43,000	23%
Large C&I	192,000	23%	\$38,000	20%

- HVAC
- Lighting
 - Direct discount
 - Fixed rebates
- Motors and refrigeration
- Farm audit and equipment
- Custom rebates



Phase II- GNI Programs

MWh/yr. Savings *	% of Total Savings	Cost (000)	% of Total Costs
93,000	10%	\$29,000	16%

- HVAC
- Lighting
 - Direct discount
 - Fixed rebates
 - LED/area street lights
- Motors and refrigeration
- Custom Rebates
- School Benchmarking **NEW!**
- Continuous Energy Improvement **NEW!**
- Master Metered Low-Income Multifamily Housing **NEW!**



* Excludes approximately 88,000 Phase I GNI carryover

Break



Increasing Value: Phase II Proposed Plan Revision Overview

PPL EU finalized its PHASE II mix of measures and programs over a year ago.

Since then:

- CFLs have become the “norm”
- T8 lighting has become the “norm”
- Customers are now choosing ENERGY STAR® appliances as the “norm”
- Phase I savings carryover is much greater than expected
- LED prices have dropped significantly
- Expected changes to the 2014 TRM

Increasing Value: Phase II Proposed Plan Revision Overview

- There is now “market saturation” for measures such as CFLs, T8 and Energy Star® Appliances
- PPL EU revised PHASE II Plan will hold the current portfolio budget
- Many of the recommended changes have a higher program acquisition cost (program costs per annual kWh saved)
- PPL EU expects to hold the budget and meet the Phase II savings target by utilizing ~ 200,000 MWh/yr. of the expected 538,000 MWh/yr. towards the PHASE II compliance requirement
- The benefit-cost ratio of the portfolio is estimated to change from 1.7 to 1.4 and the portfolio will still be cost-effective

Increasing Value: Phase II Proposed Plan Revision Overview

- Proposed revisions focus on emerging technologies, ENERGY STAR® “Most Efficient” measures, and increasing the energy-efficiency knowledge and competencies of technicians and building operators
- Many of the changes were previously requested by stakeholders but were not adopted in the original Phase II Plan because of budget and energy saving constraints
- Using of some of the carryover from Phase I makes it possible to drive emerging energy-efficiency technologies and trends sooner than would otherwise be possible within budget
- This will position PPL EU and PA on the leading edge nationally with LEDs

Increasing Value: Phase II Proposed Plan revision overview

- Offers:
 - Longer lived savings
 - Higher customer satisfaction
 - Embeds ongoing support for energy-efficiency in the hands of those who influence decisions about energy-efficiency in the marketplace
 - Maintains savings and costs per sector at the same approximate ratio as the original PHASE II Plan
- Meets all of the compliance requirements for Phase II
 - Savings targets (overall, GNI, and Low-Income) and budget
 - Meets TRC cost-effectiveness

Proposed Residential Enhancements

Lighting

- Focus on LEDs in retail stores and discontinue incentives for CFLs
- Reduce or eliminate the give-away portion of the Residential Retail program
- Replace CFLs with LEDs in the Student and Parent Energy-Efficiency Education program and E-Power Wise kits
- Replace incandescent bulbs with LEDs in Low-Income WRAP
- Increase the number of CFL recycling options

Efficient Equipment

- Change the refrigerator rebate from ENERGY STAR® to ENERGY STAR® “most efficient” and propose a higher range of incentives
- Eliminate midstream TV incentive component
- Eliminate Smart Strip Direct Install component
- Provide technical trade ally training for residential HVAC and new construction

Proposed Residential Enhancements

Home Comfort

- Add a manufactured home component based on ENERGY STAR® criteria
- Provide trade allies with thermal guns for audit/weatherization program
- Provide an additional rebate for BPI certified audits to customers who perform weatherization projects
- Add thermography to website
- Increase the ASHP/Ductless HP rebates for RTS customers

Proposed Low-Income Enhancements

Low-Income

- LEDs instead of CFLs to replace incandescent bulbs
 - Baseload WRAP
 - E-Power Wise kits
- Increase cost for HPWH jobs
- Offer a limited number of “Full Cost” jobs with a spending cap per job

Proposed Small and Large C&I Enhancements

Prescriptive Program

- Require pre-approval for all fixed rebate measures
- Add rebates for ductless heat pumps
- Offer Building Operators Certification (BOC) training at several locations throughout PPL EU service territory
- Lighting:
 - Eliminate CFL bulk purchase rebate
 - Eliminate metal halide and induction lighting rebates (fixed rebates and Direct Discount)
 - Eliminate rebate for standard T-8 linear fluorescents and rebate only high performance T8 linear fluorescents, linear LEDs and T5s (fixed rebates and Direct Discount)

Proposed Small and Large C&I Enhancements

Custom Program:

- Require pre-approval of projects before equipment is purchased
- Remove “Standard” (covered in TRM) measures from Custom Program
- Increase Custom Project cost caps
- Increase general project TRC to 1.1 or higher

Proposed GNI Enhancements

Same enhancements as Small and Large C&I and....

- Replace incandescent bulbs with LEDs in the residential units of the Master Metered Low-Income Multifamily Program
- Complete up to three whole building energy-efficiency retrofits as part of the Master Metered Low-Income Multifamily Program that are electrically heated and evaluate the results
- Add ground source heat pump rebate for GNI customers

Proposed GNI Enhancements - continued

- Increase the Direct Discount rebates to public schools for lighting and lighting controls
- Offer free LED exit signs to schools participating in the School Benchmarking Program
- Partially fund School Energy Champions (to support CEI)
- Increase the rebate for LED street lights for municipal owned street lights

Review and Questions

- Results from Phase I
- Lessons Learned
- Current Phase II Programs
- Explanation of Proposed Revisions
- Program Enhancements
- **Next Steps**



Proposed GNI Enhancements continued

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Thank you



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